

BIBLIOTEKA
PW
SP
KRAKÓW

39.749

Wojtowiczowa
Arytmetyka

...a i Władysław Wojtowicz

ARYTMETYKA

DLA I KLASY SZKÓŁ POWSZECHNYCH

K. S. Jakubowski we Lwowie

Handwritten: Handwritten signature and date 8/II-38

JANINA WOJTOWICZOWA i WŁADYSŁAW WOJTOWICZ

ARYTMETYKA

6h. m.

DLA I KLASY SZKÓŁ POWSZECHNYCH

ILUSTROWAŁ ROMAN WYŁCAN



Cena

wraz ze znaczkiem na Towarzystwo
Popierania Budowy Publicznych Szkół Powszechnych wynosi
70 groszy

LWÓW 1937

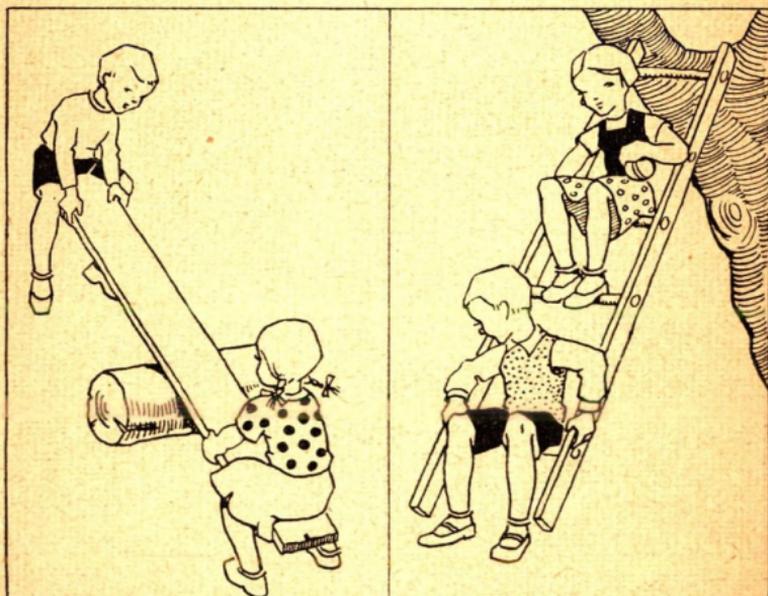
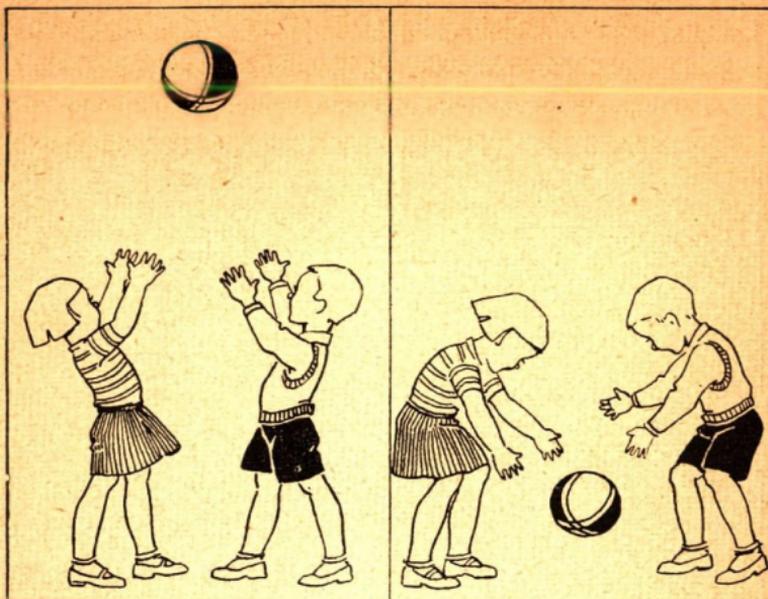
NAKŁAD i WŁASNOŚĆ K. S. JAKUBOWSKIEGO



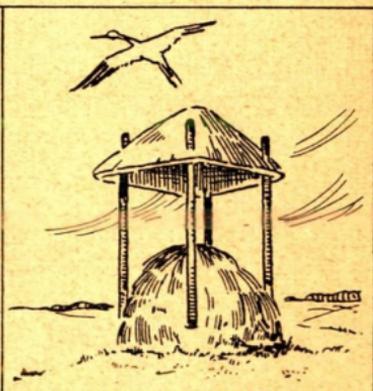
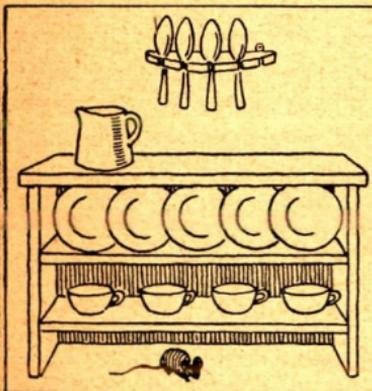
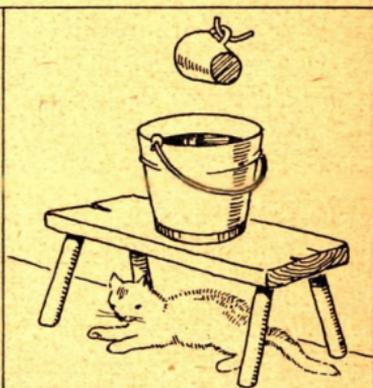
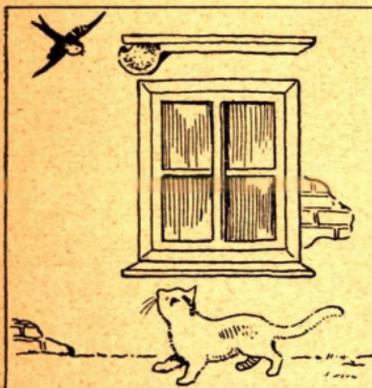
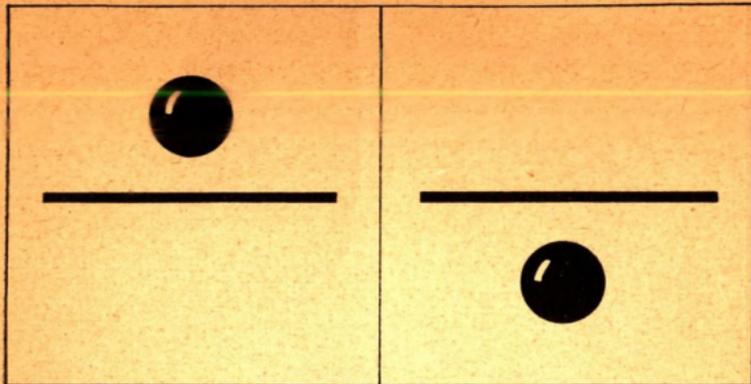
34.749

WSZYSTKIE PRAWA ZASTRZEŻONE

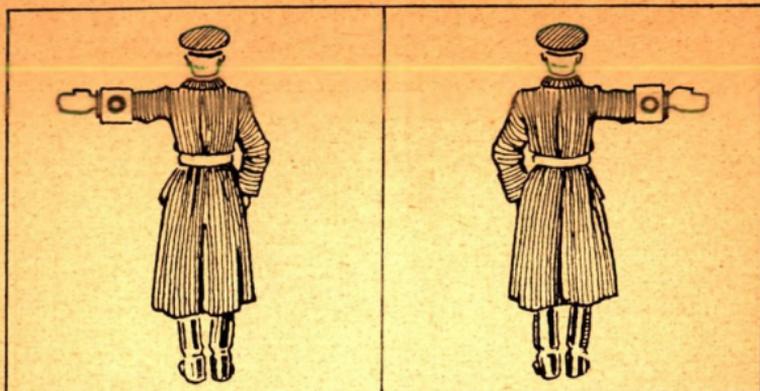
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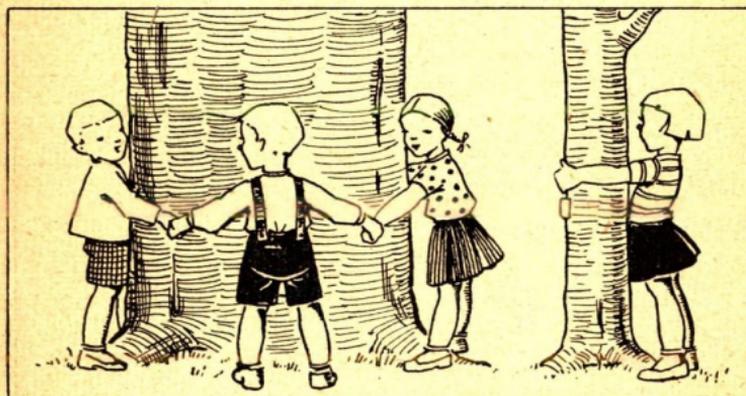
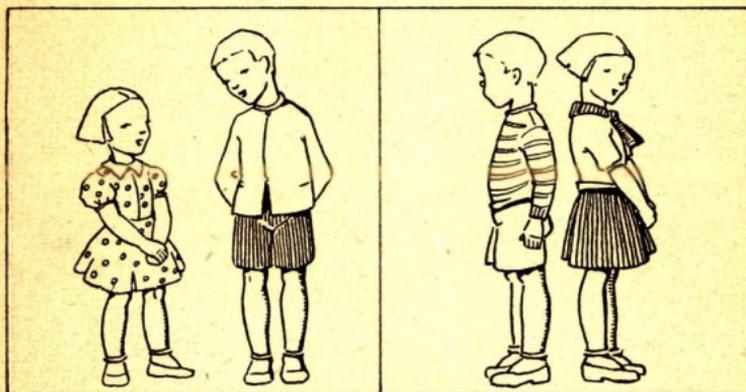
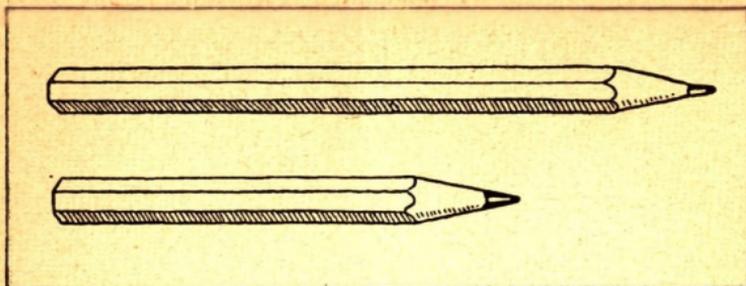
Nad — pod — na.



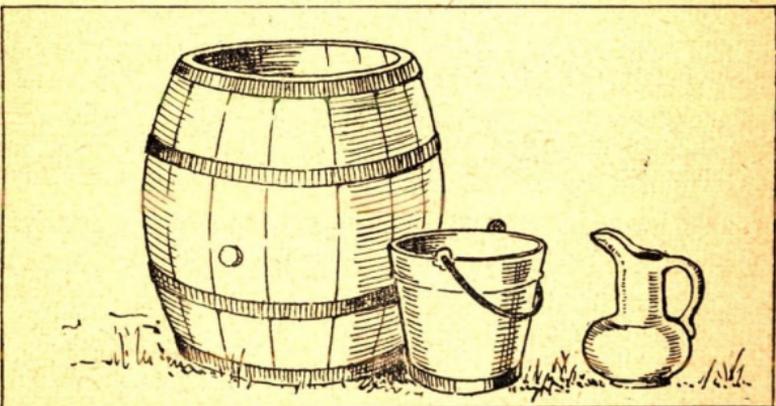
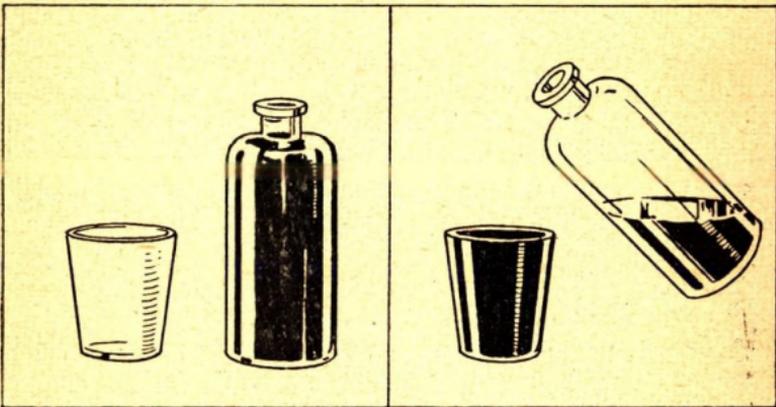
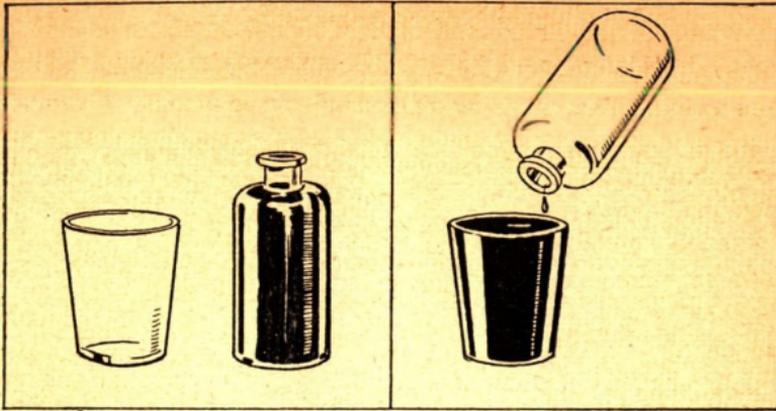
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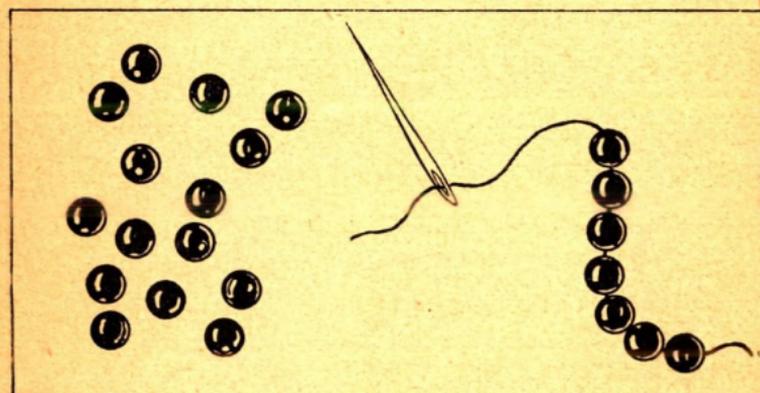
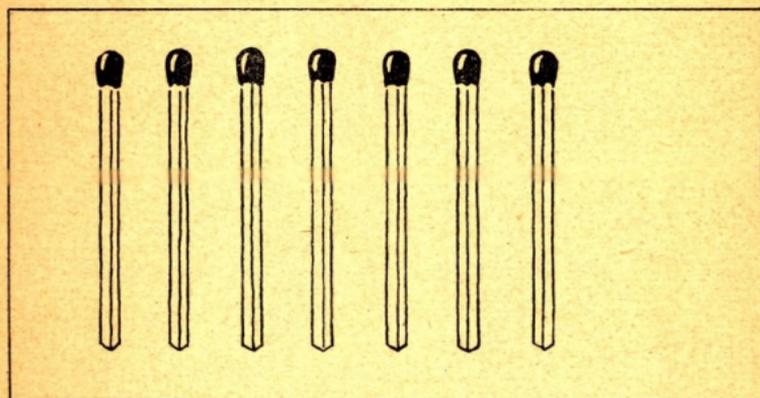
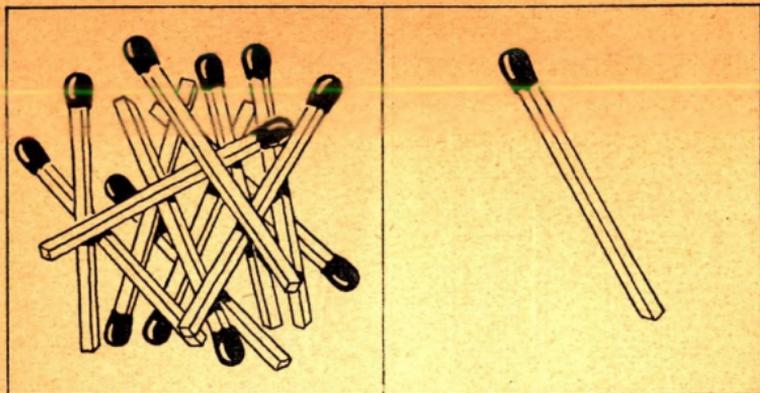


Większy — mniejszy.
Krótszy — dłuższy.
Wyższy — niższy.
Grubszy — cieńszy.

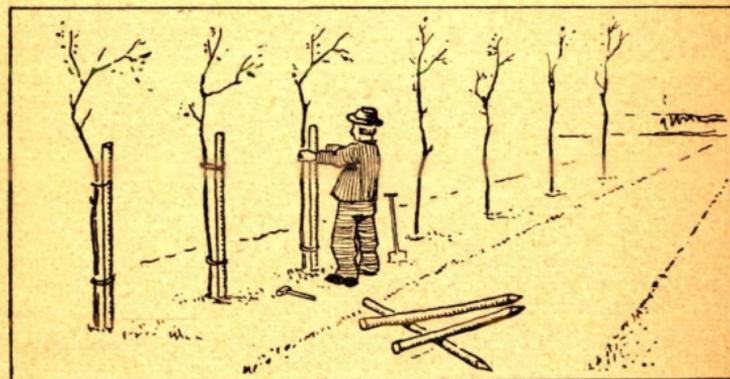
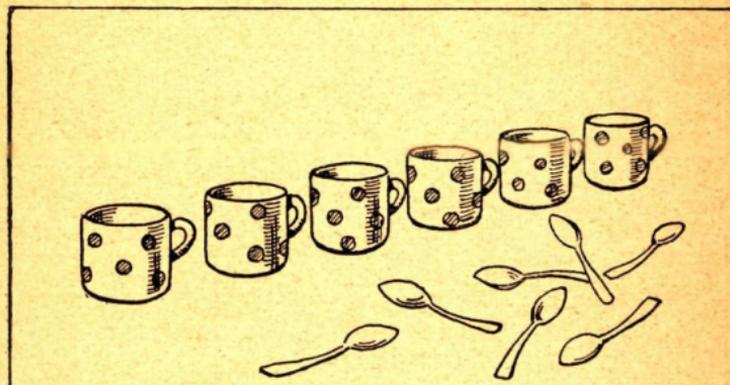


Porównywanie pojemności.

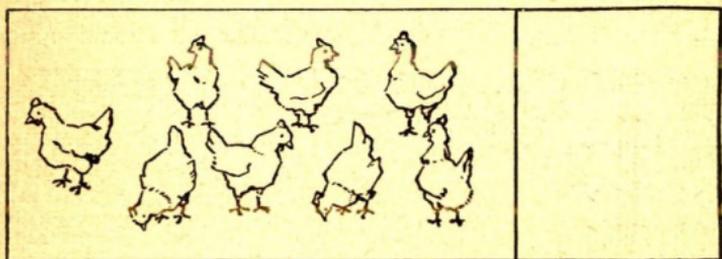
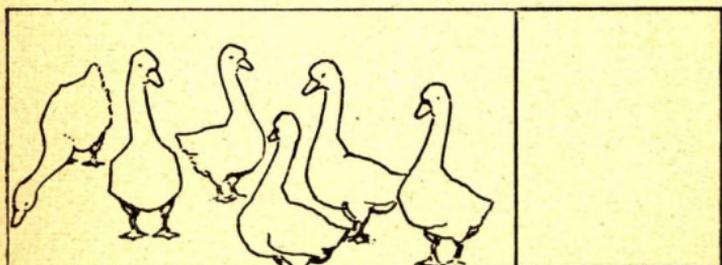
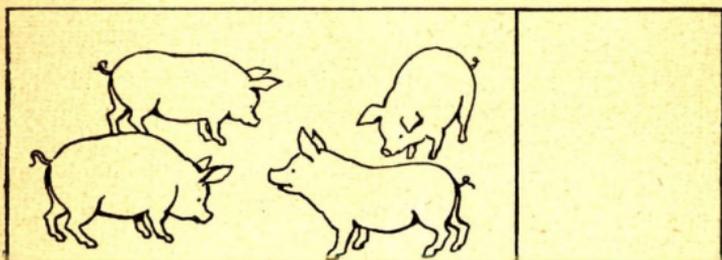
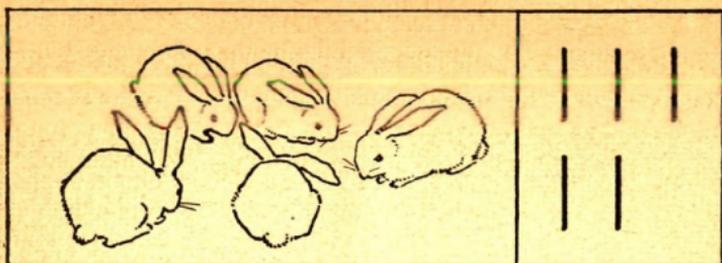


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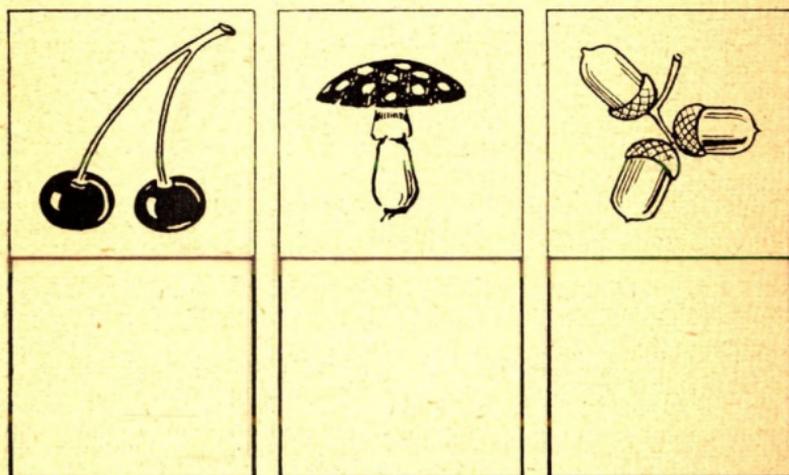
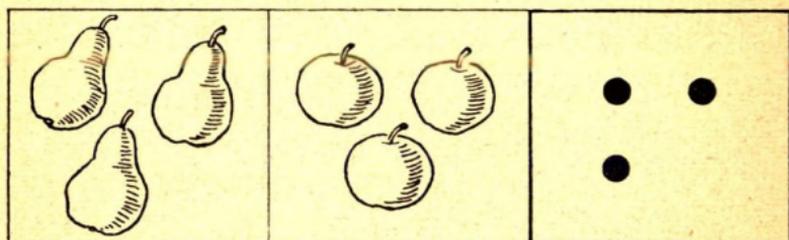
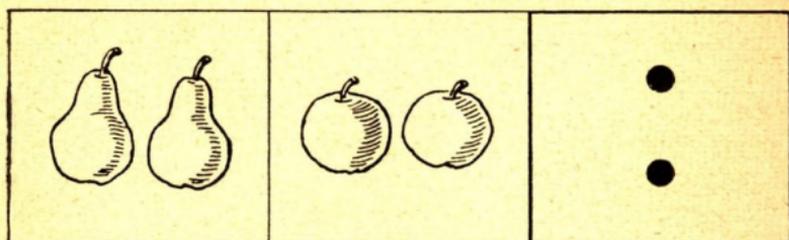
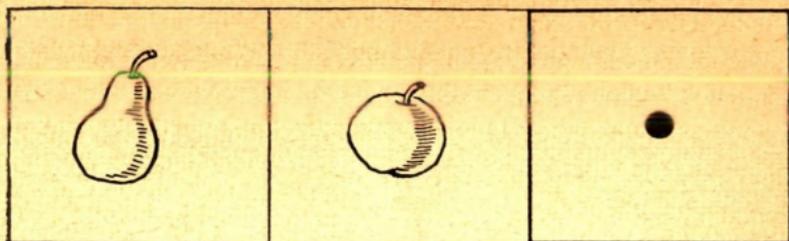
Porównywanie dwóch zbiorów.

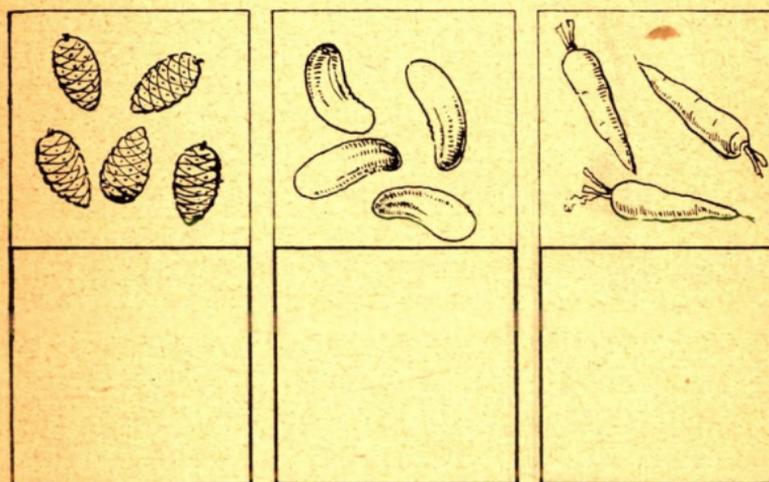
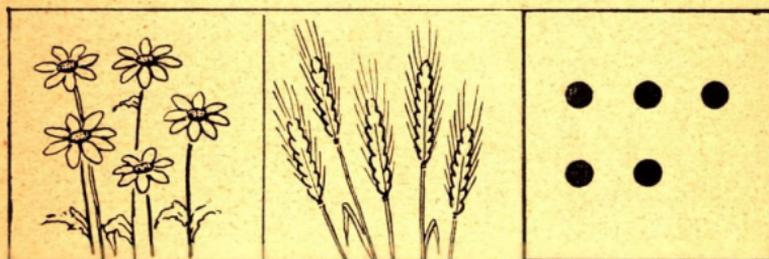
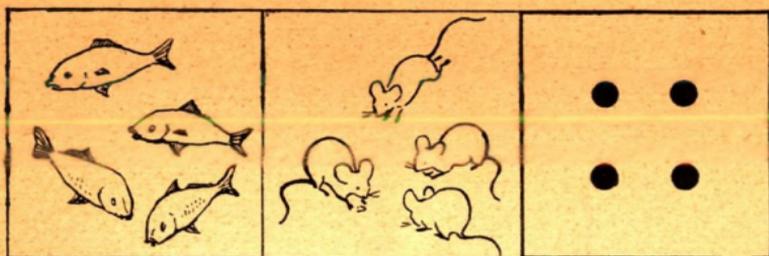


Odzworowanie danego zbioru
(bez nazw liczb).

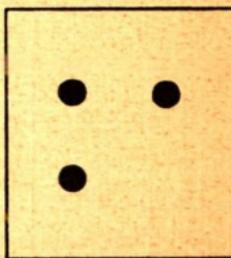
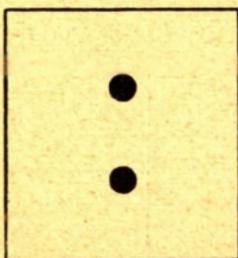
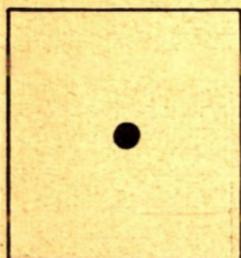
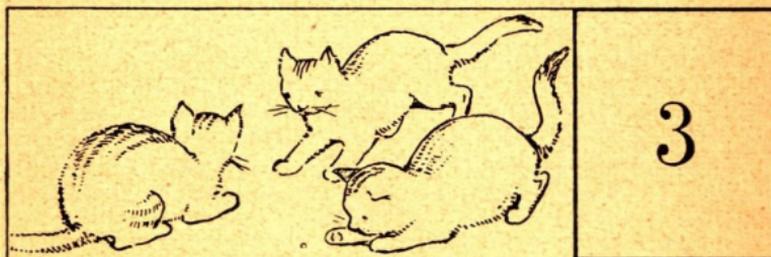
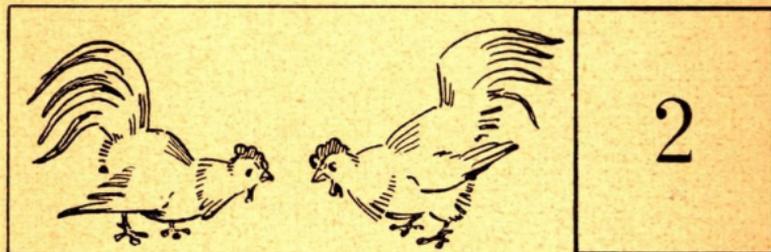
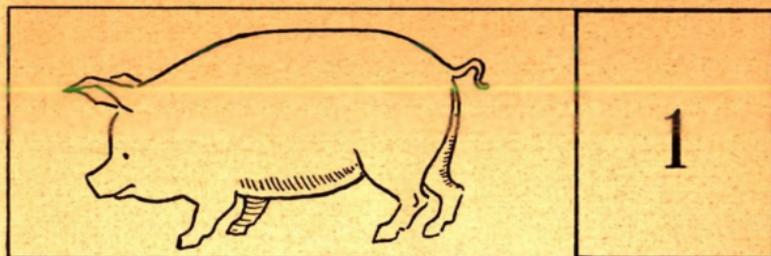


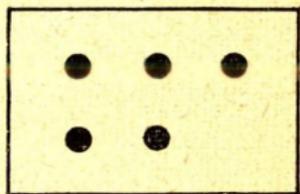
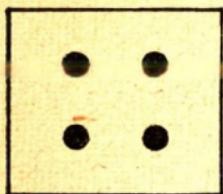
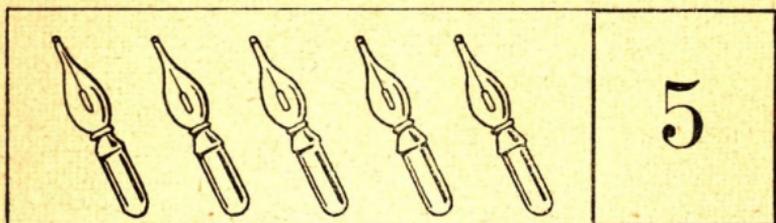
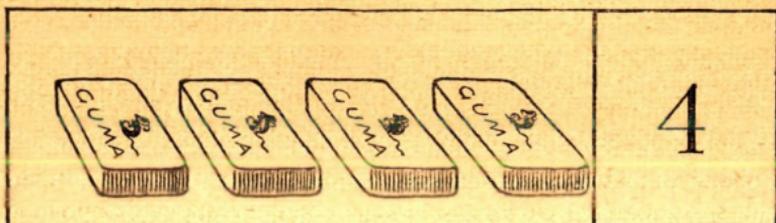
Liczenie przedmiotów przed wprowadzeniem cyfr.



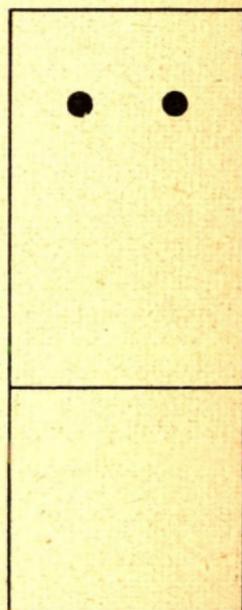
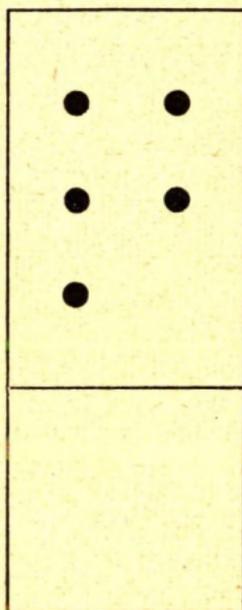
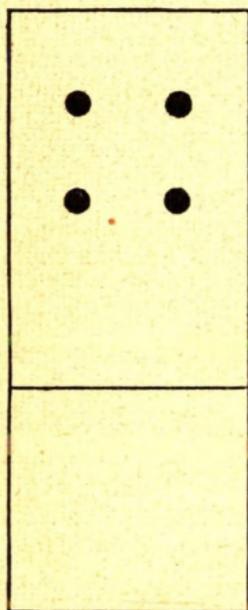
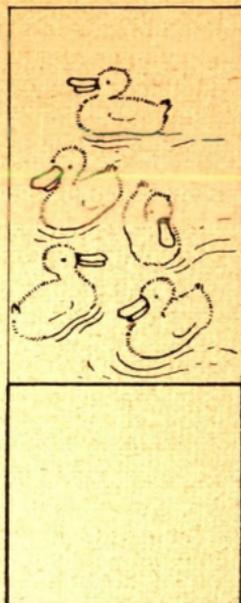
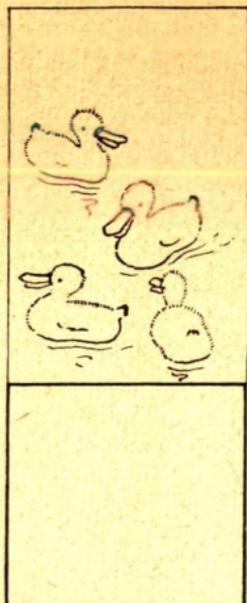
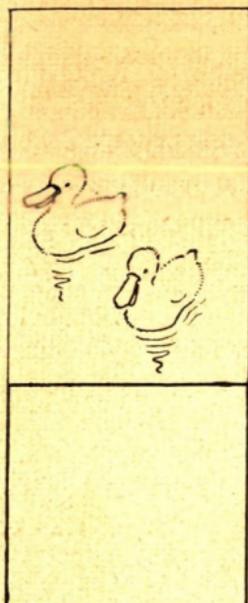


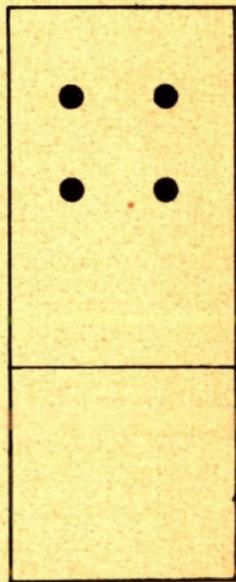
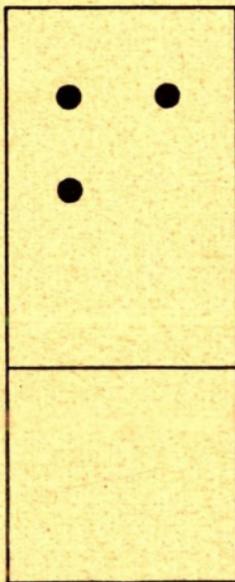
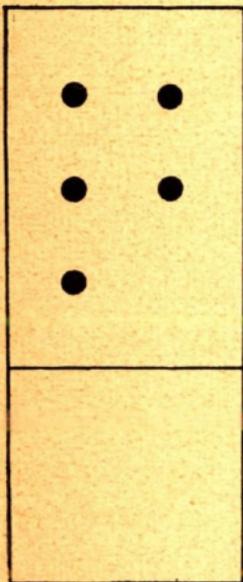
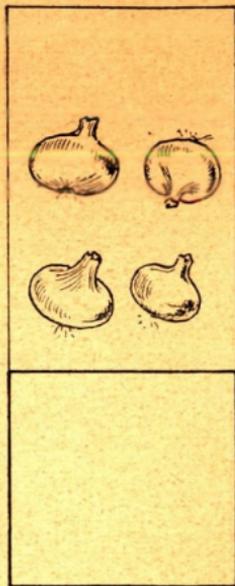
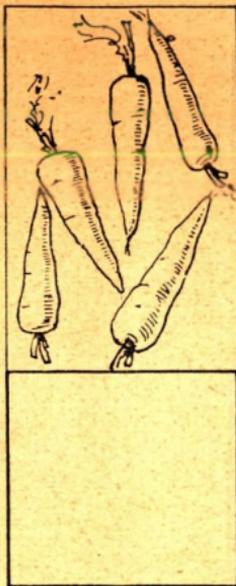
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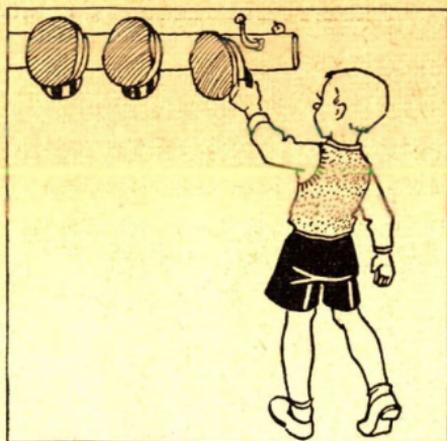




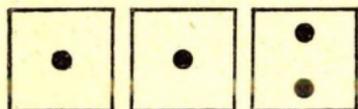
1	2	3	4	5
				



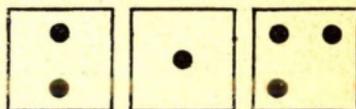




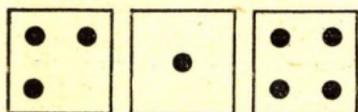
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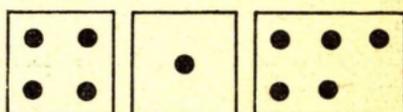
$$1 + 1 =$$



$$2 + 1 =$$



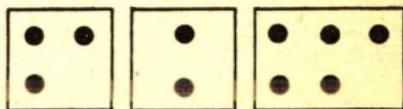
$$3 + 1 =$$



$$4 + 1 =$$



$$2 + 2 =$$



$$3 + 2 =$$

$$2 + 1 =$$

$$3 + 1 =$$

$$1 + 4 =$$

$$2 + 2 =$$

$$1 + 1 =$$

$$2 + 2 =$$

$$3 + 2 =$$

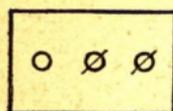
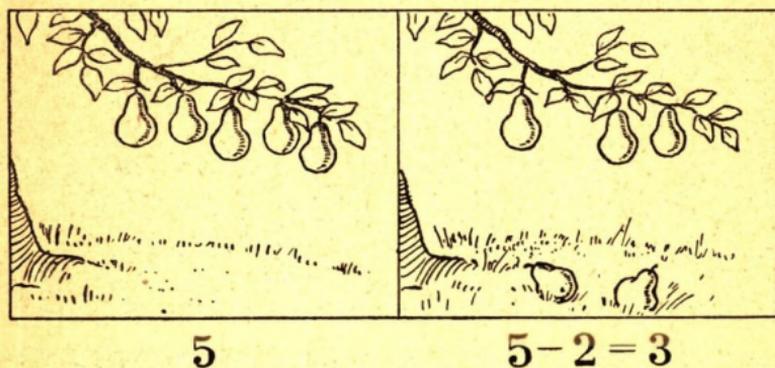
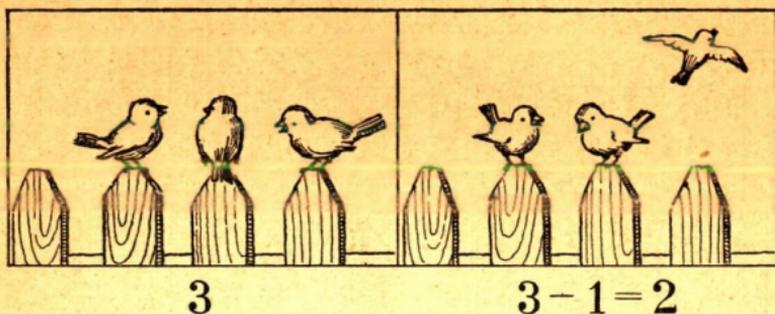
$$3 + 1 =$$

$$4 + 1 =$$

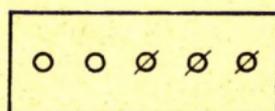
$$2 + 3 =$$

$$1 + 2 =$$

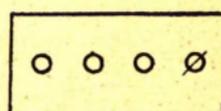
$$3 + 2 =$$



$$3 - 2 =$$



$$5 - 3 =$$



$$4 - 1 =$$

$2 - 1 =$

$4 - 1 =$

$5 - 1 =$

$4 + 1 =$

$2 + 1 =$

$2 + 2 =$

$1 + 2 =$

$3 + 1 =$

$3 - 1 =$

$4 - 2 =$

$3 - 2 =$

$4 - 1 =$

$2 + 3 =$

$1 + 4 =$

$1 + 3 =$

$3 + 2 =$

$5 - 3 =$

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$4 + 1 =$

$3 + 2 =$

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$5 - 3 =$

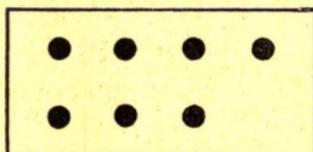
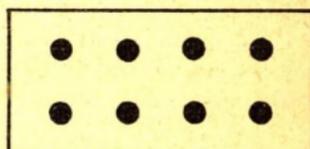
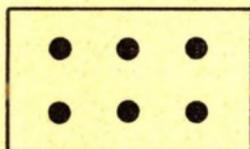
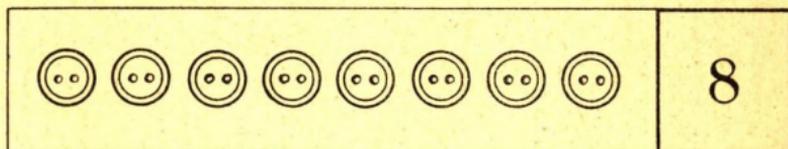
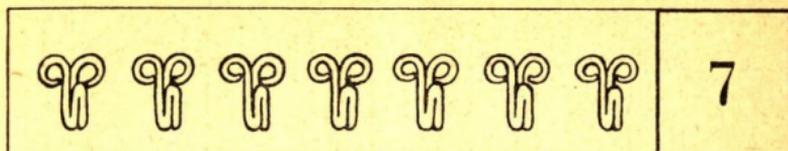
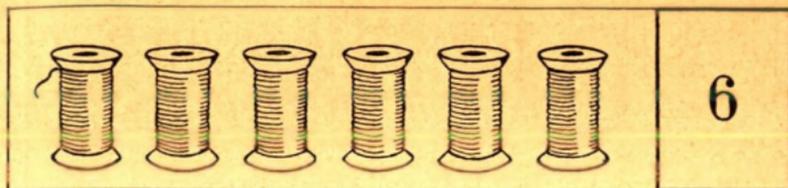
$5 - 1 =$

$3 - 2 =$

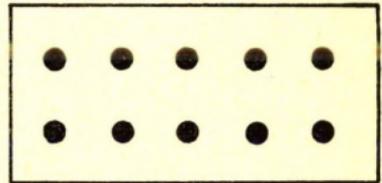
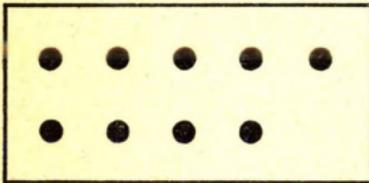
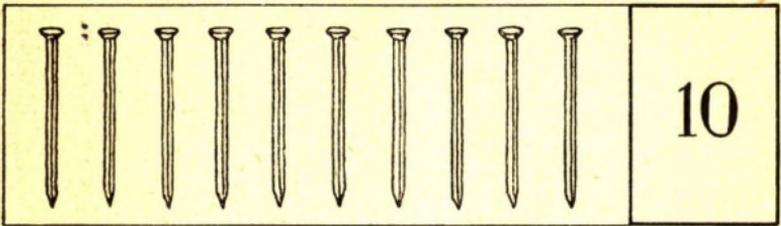
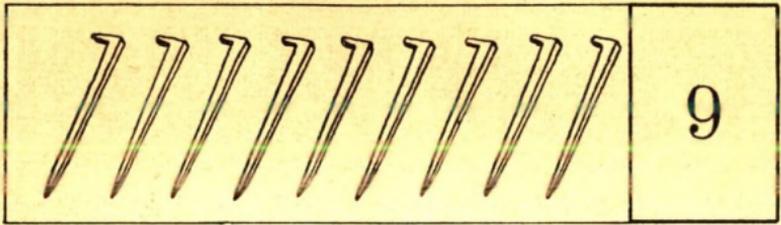
$4 - 1 =$

$4 - 2 =$

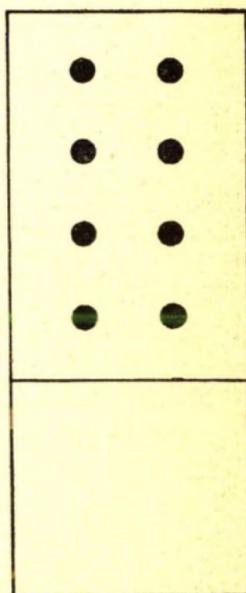
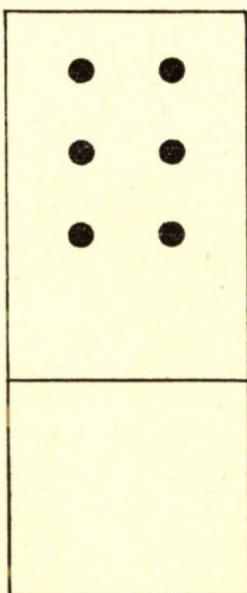
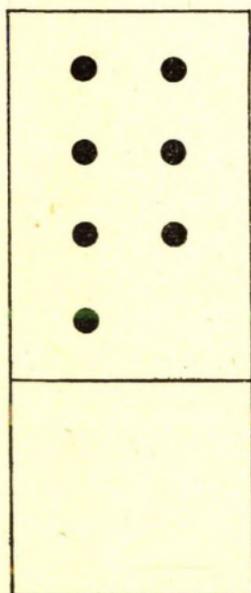
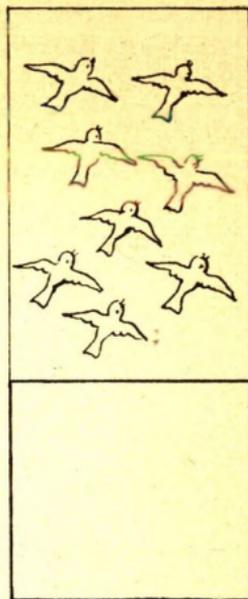
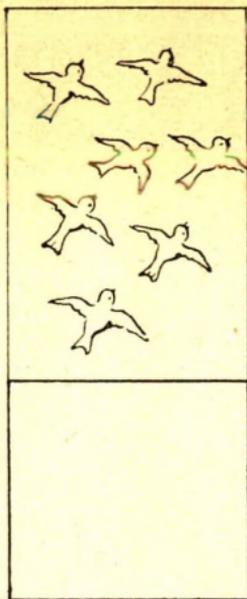
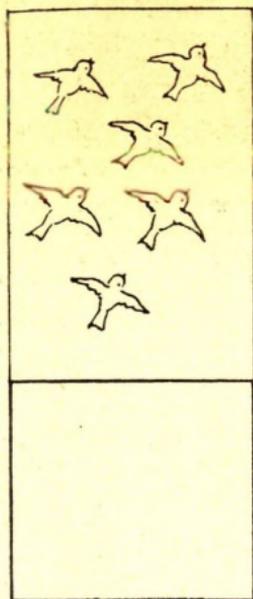
Wprowadzenie cyfr 6, 7, 8, 9, 10.

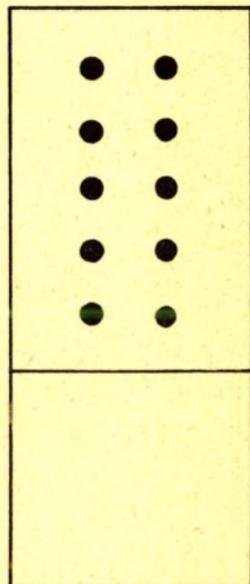
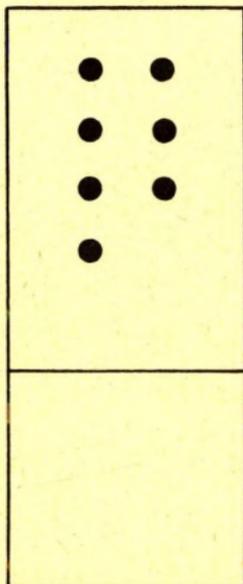
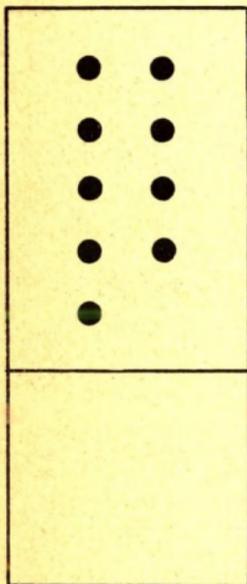
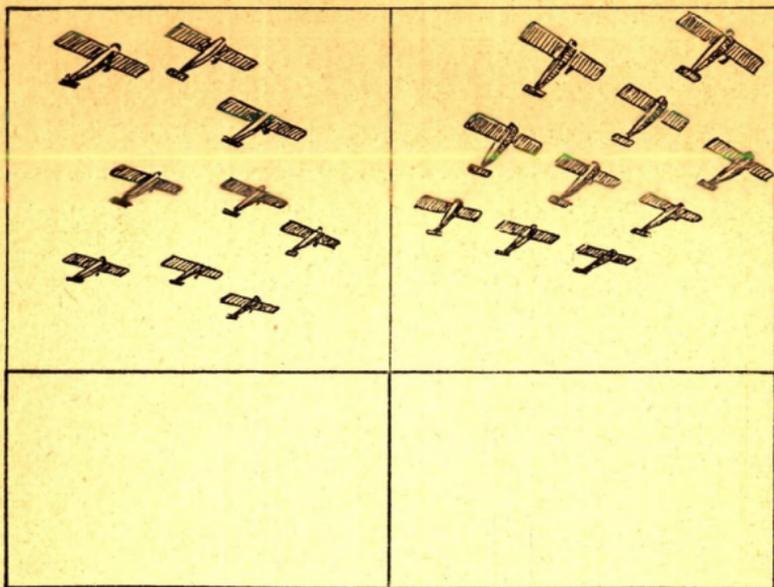


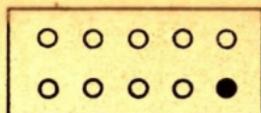
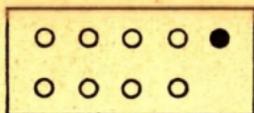
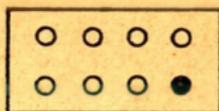
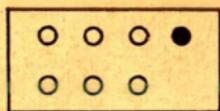
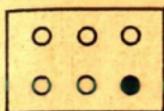
6	7	8



9	10







$$1 + 1 =$$

$$2 + 1 =$$

$$3 + 1 =$$

$$4 + 1 =$$

$$5 + 1 =$$

$$6 + 1 =$$

$$7 + 1 =$$

$$8 + 1 =$$

$$9 + 1 =$$

$$7 + 1 =$$

$$2 + 1 =$$

$$5 + 1 =$$

$$8 + 1 =$$

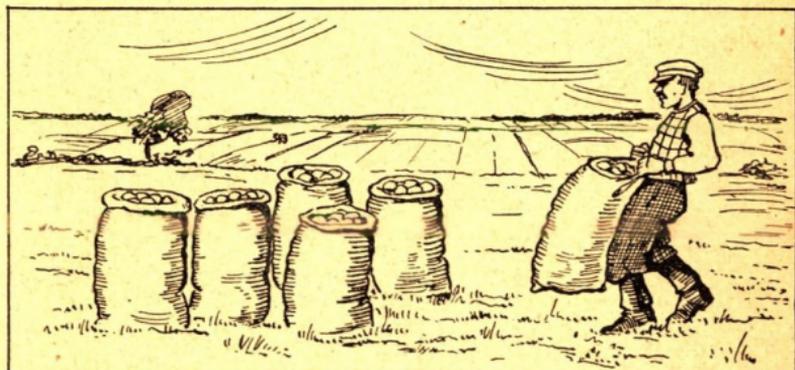
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$$6 + 1 =$$

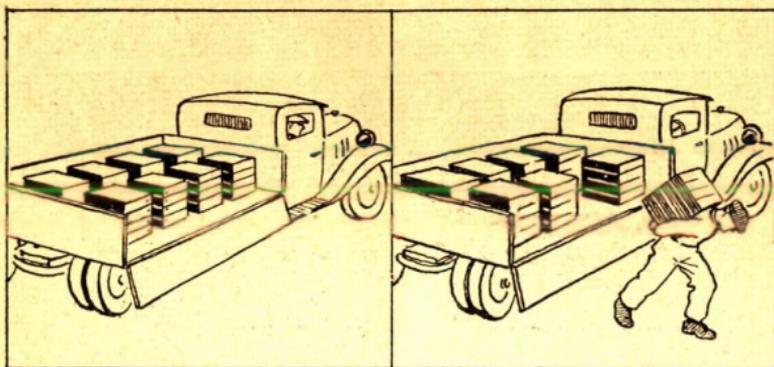
$$9 + 1 =$$

$$1 + 1 =$$

$$4 + 1 =$$



$$5 + 1 = 6$$



8

 $8 - 1 = 7$

$2 - 1 =$

$3 - 1 =$

$4 - 1 =$

$5 - 1 =$

$6 - 1 =$

$7 - 1 =$

$8 - 1 =$

$9 - 1 =$

$10 - 1 =$

$*5 - 1 =$

$2 - 1 =$

$9 - 1 =$

$3 - 1 =$

$7 - 1 =$

$10 - 1 =$

$8 - 1 =$

$6 - 1 =$

$4 - 1 =$

$*2 + 1 =$

$2 - 1 =$

$5 + 1 =$

$5 - 1 =$

$*9 + 1 =$

$9 - 1 =$

$4 + 1 =$

$4 - 1 =$

$*3 + 1 =$

$3 - 1 =$

$6 - 1 =$

$6 + 1 =$

$*8 - 1 =$

$8 + 1 =$

$7 + 1 =$

$7 - 1 =$

$5 + 1 + 1 =$

$8 + 1 + 1 =$

$1 + 1 + 1 =$

$7 - 1 - 1 =$

$6 - 1 - 1 =$

$4 - 1 - 1 =$

$*5 + 1 + 1 =$

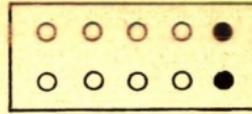
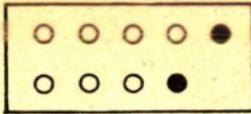
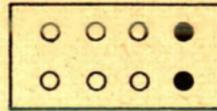
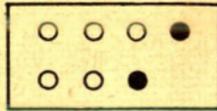
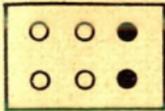
$10 - 1 - 1 =$

$3 + 1 + 1 =$

$*5 - 1 - 1 =$

$7 + 1 + 1 =$

$9 - 1 - 1 =$



$$1 + 2 =$$

$$2 + 2 =$$

$$3 + 2 =$$

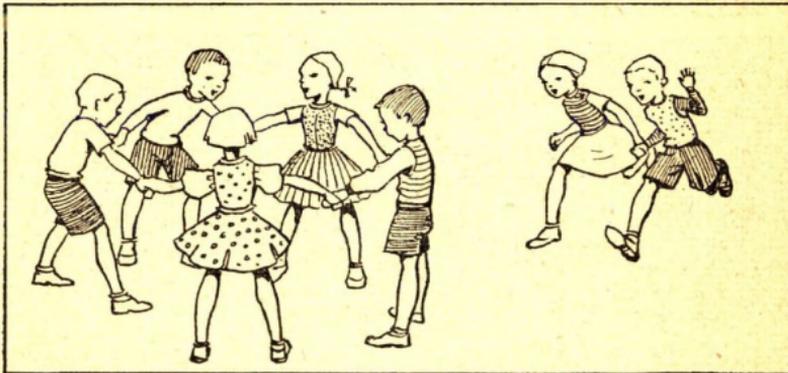
$$4 + 2 =$$

$$5 + 2 =$$

$$6 + 2 =$$

$$7 + 2 =$$

$$8 + 2 =$$



$$5 + 2 = 7$$

$$*6 + 2 =$$

$$4 + 2 =$$

$$8 + 2 =$$

$$2 + 2 =$$

$$*7 + 2 =$$

$$1 + 2 =$$

$$5 + 2 =$$

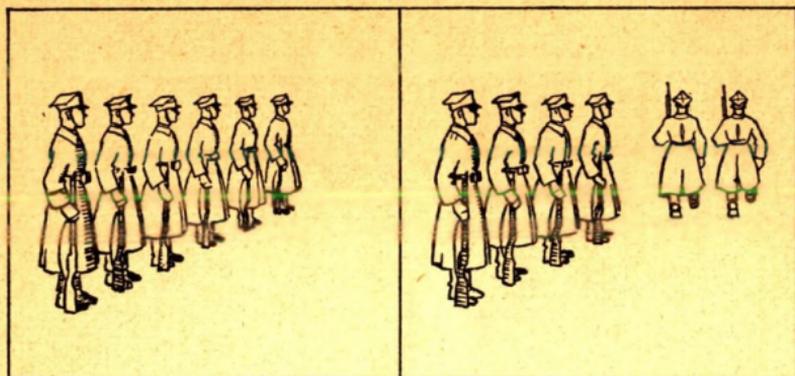
$$3 + 2 =$$

$$*5 + 1 =$$

$$7 + 1 =$$

$$6 + 2 =$$

$$9 + 1 =$$



6

 $6 - 2 = 4$

$$\begin{aligned} 3 - 2 &= \\ 4 - 2 &= \\ 5 - 2 &= \\ 6 - 2 &= \\ 7 - 2 &= \\ 8 - 2 &= \\ 9 - 2 &= \\ 10 - 2 &= \end{aligned}$$

$$\begin{aligned} 8 - 2 &= \\ 5 - 2 &= \\ 4 - 2 &= \\ 10 - 2 &= \\ 7 - 2 &= \\ 9 - 2 &= \\ 6 - 2 &= \\ 3 - 2 &= \end{aligned}$$

$$\begin{aligned} *9 - 1 &= \\ 8 - 1 &= \\ 8 - 2 &= \\ 6 - 1 &= \\ 5 - 2 &= \\ 6 - 2 &= \\ 9 - 2 &= \\ 7 - 2 &= \end{aligned}$$

$$\begin{aligned} 6 + 2 &= \\ 6 - 2 &= \\ 8 + 2 &= \\ 8 - 2 &= \end{aligned}$$

$$\begin{aligned} 7 + 2 &= \\ 7 - 2 &= \\ 5 - 2 &= \\ 5 + 2 &= \end{aligned}$$

$$\begin{aligned} *4 - 2 &= \\ 10 - 1 &= \\ 5 + 2 &= \\ 9 - 2 &= \end{aligned}$$

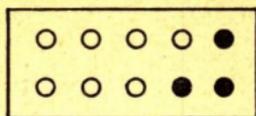
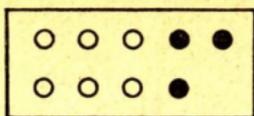
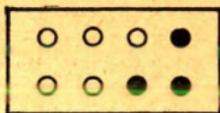
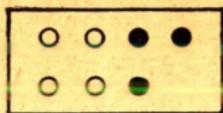
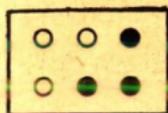
$$\begin{aligned} *9 + 1 &= \\ 6 - 2 &= \\ 7 + 2 &= \\ 5 + 1 &= \end{aligned}$$

$$\begin{aligned} 3 + 2 + 1 &= \\ 5 + 1 + 2 &= \\ 6 + 1 + 1 &= \\ 2 + 2 + 2 &= \end{aligned}$$

$$\begin{aligned} 6 - 1 - 2 &= \\ 8 - 2 - 1 &= \\ 10 - 2 - 2 &= \\ 9 - 1 - 2 &= \end{aligned}$$

$$\begin{aligned} *4 + 2 - 1 &= \\ 10 - 2 + 1 &= \\ 8 - 1 + 2 &= \\ 6 + 2 - 1 &= \end{aligned}$$

$$\begin{aligned} *5 - 1 + 2 &= \\ 5 + 2 - 1 &= \\ 7 + 2 - 1 &= \\ 6 - 1 - 2 &= \end{aligned}$$



$$1 + 3 =$$

$$2 + 3 =$$

$$3 + 3 =$$

$$4 + 3 =$$

$$5 + 3 =$$

$$6 + 3 =$$

$$7 + 3 =$$

$$5 + 3 =$$

$$2 + 3 =$$

$$6 + 3 =$$

$$4 + 3 =$$

$$3 + 3 =$$

$$7 + 3 =$$

$$1 + 3 =$$

$$*6 + 1 =$$

$$6 + 2 =$$

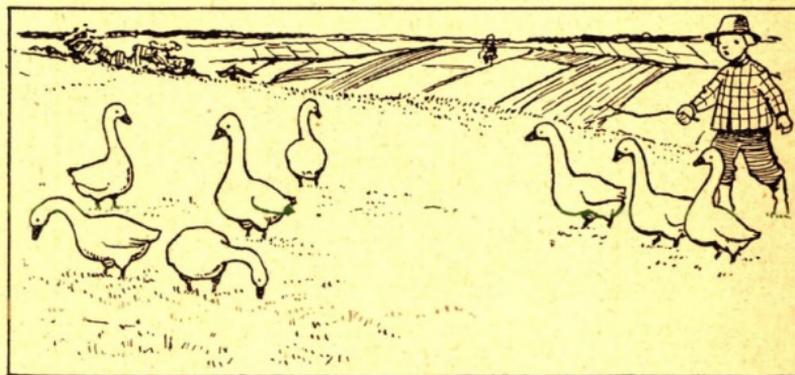
$$6 + 3 =$$

$$4 + 3 =$$

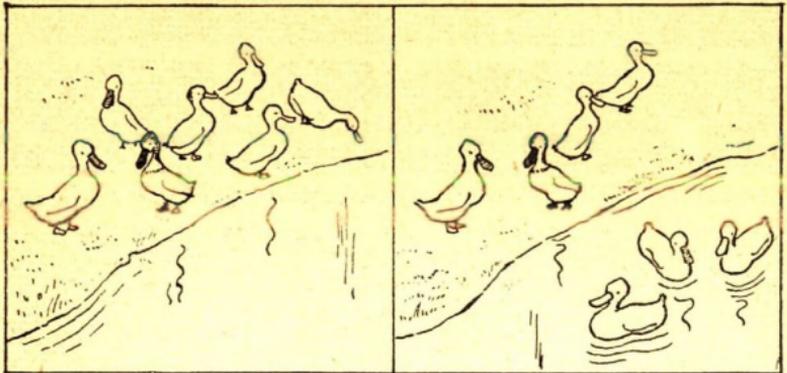
$$2 + 3 =$$

$$8 + 2 =$$

$$7 + 3 =$$



$$5 + 3 = 8$$



7

 $7 - 3 = 4$

$4 - 3 =$

$9 - 3 =$

$*8 - 2 =$

$5 - 3 =$

$6 - 3 =$

$8 - 3 =$

$6 - 3 =$

$4 - 3 =$

$6 - 2 =$

$7 - 3 =$

$10 - 3 =$

$6 - 3 =$

$8 - 3 =$

$5 - 3 =$

$7 - 2 =$

$9 - 3 =$

$7 - 3 =$

$7 - 1 =$

$10 - 3 =$

$8 - 3 =$

$9 - 3 =$

$4 - 3 =$

$5 - 3 =$

$*6 + 3 =$

$*5 + 1 =$

$4 + 3 =$

$5 + 3 =$

$9 - 3 =$

$10 - 1 =$

$7 - 3 =$

$8 - 3 =$

$7 + 3 =$

$4 + 2 =$

$7 + 3 =$

$3 + 3 =$

$10 - 3 =$

$8 - 2 =$

$10 - 3 =$

$6 - 3 =$

$7 - 3 =$

$8 - 3 =$

$5 + 1 + 2 =$

$7 - 3 - 1 =$

$6 + 2 - 3 =$

$4 + 3 + 1 =$

$8 - 2 - 1 =$

$4 - 1 + 3 =$

$6 + 1 + 3 =$

$6 - 1 - 3 =$

$7 - 3 + 2 =$

$2 + 3 + 2 =$

$10 - 3 - 2 =$

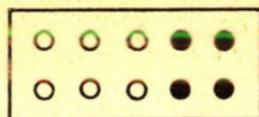
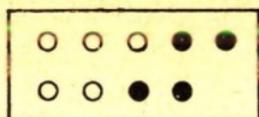
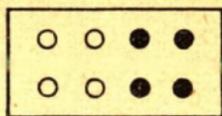
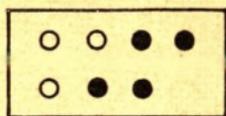
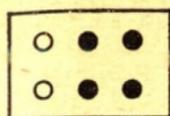
$3 + 3 + 3 =$

$*7 - 3 + 1 =$

$9 + 1 - 3 =$

$4 + 2 - 1 =$

$5 + 2 - 3 =$



$1 + 4 =$

$4 + 4 =$

$2 + 4 =$

$5 + 4 =$

$2 + 4 =$

$5 + 4 =$

$6 + 4 =$

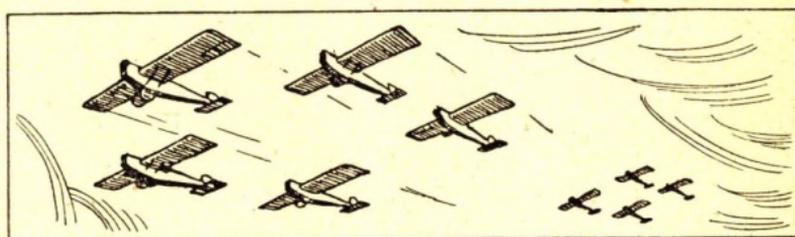
$3 + 4 =$

$3 + 4 =$

$6 + 4 =$

$1 + 4 =$

$4 + 4 =$



$5 + 4 = 9$

$5 - 4 =$

$8 - 4 =$

$6 - 4 =$

$10 - 4 =$

$6 - 4 =$

$9 - 4 =$

$8 - 4 =$

$7 - 4 =$

$7 - 4 =$

$10 - 4 =$

$5 - 4 =$

$9 - 4 =$



10



$10 - 4 = 6$

$*4 + 4 =$

$*3 + 4 =$

$*2 + 2 =$

$*5 + 4 =$

$8 - 4 =$

$7 - 4 =$

$10 - 4 =$

$9 - 2 =$

$6 - 4 =$

$10 - 4 =$

$4 + 4 =$

$4 + 3 =$

$6 + 4 =$

$2 + 4 =$

$8 - 3 =$

$7 - 1 =$

$5 + 4 =$

$8 - 4 =$

$3 + 3 =$

$6 + 2 =$

$5 - 4 =$

$1 + 4 =$

$6 - 1 =$

$8 - 3 =$

$1 + 2 + 3 =$

$2 + 3 + 4 =$

$3 + 4 + 1 =$

$5 + 1 + 4 =$

$10 - 2 - 4 =$

$8 - 4 - 1 =$

$5 - 3 - 1 =$

$7 - 1 - 3 =$

$*9 + 1 - 4 =$

$10 - 4 + 3 =$

$1 + 4 - 2 =$

$7 - 3 + 2 =$

$2 = 1 + 1$

$3 = 2 + \square$

$4 = 2 + \square$

$5 = 3 + \square$

$6 = 3 + \square$

$7 = 3 + \square$

$8 = 4 + \square$

$9 = 6 + \square$

$3 + 1 = 4$

$3 + \square = 5$

$3 + \square = 6$

$5 + \square = 6$

$5 + \square = 8$

$4 + \square = 8$

$7 + \square = 10$

$6 + \square = 10$

$6 - 2 = 4$

$6 - \square = 3$

$7 - \square = 3$

$7 - \square = 5$

$10 - \square = 9$

$10 - \square = 8$

$10 - \square = 6$

$5 - \square = 4$

$*4 = 1 + \square$

$8 = 6 + \square$

$5 = 3 + \square$

$10 = 7 + \square$

$*8 + \square = 9$

$6 + \square = 9$

$3 + \square = 7$

$5 + \square = 7$

$*9 - \square = 8$

$9 - \square = 5$

$6 - \square = 5$

$8 - \square = 5$



$8 + \square = 10$



$6 + \square = 10$



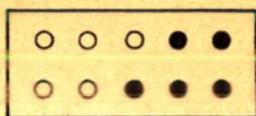
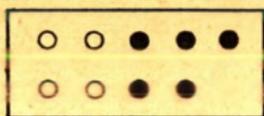
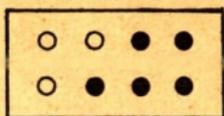
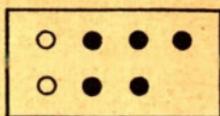
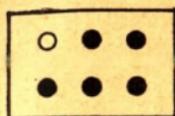
$7 + \square = 10$



$9 + \square = 10$

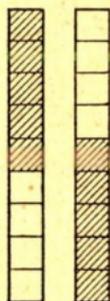
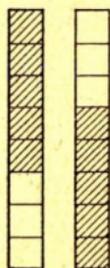
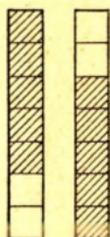
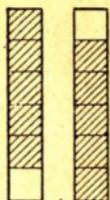


$5 + \square = 10$



$$\begin{array}{r}
 5 + 1 = \\
 1 + 5 = \\
 5 + 2 = \\
 2 + 5 = \\
 5 + 3 = \\
 3 + 5 = \\
 5 + 4 = \\
 4 + 5 = \\
 5 + 5 =
 \end{array}$$

$$\begin{array}{r}
 *5 + 2 = \\
 4 + 5 = \\
 5 + 1 = \\
 3 + 5 = \\
 2 + 5 = \\
 5 + 4 = \\
 1 + 5 = \\
 5 + 3 = \\
 3 + 5 =
 \end{array}$$



$$\begin{array}{r}
 6 - 1 = \\
 6 - 5 = \\
 7 - 2 = \\
 7 - 5 = \\
 8 - 3 = \\
 8 - 5 = \\
 9 - 4 = \\
 9 - 5 = \\
 10 - 5 =
 \end{array}$$

$$\begin{array}{r}
 *5 + 5 = \\
 8 - 5 = \\
 4 + 5 = \\
 7 - 5 = \\
 3 + 5 = \\
 6 - 5 = \\
 1 + 5 = \\
 10 - 5 = \\
 2 + 5 =
 \end{array}$$

$$\begin{array}{r}
 3 + 2 + 5 = \\
 7 + 1 - 5 = \\
 10 - 5 - 1 = \\
 9 - 4 + 5 = \\
 4 + 4 - 2 = \\
 1 + 5 + 4 =
 \end{array}$$

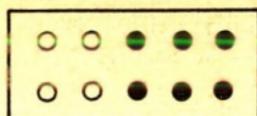
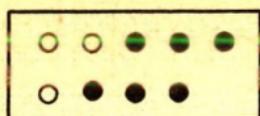
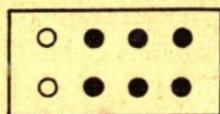
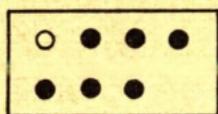
$$\begin{array}{r}
 *8 + 2 - 5 = \\
 2 + 6 + 2 = \\
 9 - 3 - 3 = \\
 5 + 5 - 1 = \\
 6 + 4 - 5 = \\
 7 + 3 - 4 =
 \end{array}$$

$$\begin{array}{r}
 10 = 5 + \square \\
 10 = 9 + \square \\
 10 = 6 + \square \\
 10 = 8 + \square
 \end{array}$$

$$\begin{array}{r}
 *8 = 7 + \square \\
 8 = 5 + \square \\
 9 = 6 + \square \\
 9 = 4 + \square
 \end{array}$$

$$\begin{array}{r}
 2 + \square = 7 \\
 4 + \square = 9 \\
 3 + \square = 8 \\
 1 + \square = 6
 \end{array}$$

$$\begin{array}{r}
 6 - \square = 1 \\
 9 - \square = 6 \\
 10 - \square = 6 \\
 10 - \square = 5
 \end{array}$$



$6 + 1 =$

$*6 + 3 =$

$7 - 1 =$

$*2 + 6 =$

$1 + 6 =$

$2 + 6 =$

$7 - 6 =$

$9 - 6 =$

$6 + 2 =$

$6 + 4 =$

$8 - 2 =$

$4 + 6 =$

$2 + 6 =$

$1 + 6 =$

$8 - 6 =$

$7 - 6 =$

$6 + 3 =$

$6 + 2 =$

$9 - 3 =$

$1 + 6 =$

$3 + 6 =$

$3 + 6 =$

$9 - 6 =$

$8 - 6 =$

$6 + 4 =$

$6 + 1 =$

$10 - 4 =$

$3 + 6 =$

$4 + 6 =$

$4 + 6 =$

$10 - 6 =$

$6 - 5 =$

$6 + 2 + 2 =$

$7 - 5 + 6 =$

$*6 + 3 + 1 =$

$9 - 1 - 6 =$

$4 + 6 - 5 =$

$10 - 6 + 4 =$

$2 + 6 - 5 =$

$8 + 2 - 1 =$

$8 - 2 + 3 =$

$3 + 3 + 3 =$

$9 - 6 + 3 =$

$5 + 5 - 6 =$

$4 + 4 + 2 =$

$3 + 3 + 4 =$

$10 - 5 - 1 =$

$10 - 6 + 5 =$

$7 = 1 + \square$

$*6 = 1 + \square$

$*2 + \square = 8$

$9 = 6 + \square$

$8 = 2 + \square$

$4 + \square = 6$

$10 = 4 + \square$

$5 = 3 + \square$

$7 + \square = 10$

$10 = 7 + \square$

$9 = 3 + \square$

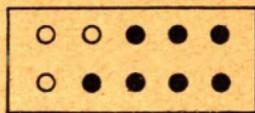
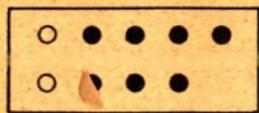
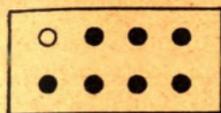
$3 + \square = 9$

$8 - \square = 5$

$8 - \square = 2$

$6 - \square = 1$

$10 - \square = 5$



$7 + 1 =$

$7 + 2 =$

$8 - 1 =$

$2 + 7 =$

$1 + 7 =$

$3 + 7 =$

$8 - 7 =$

$10 - 7 =$

$7 + 2 =$

$7 + 1 =$

$9 - 2 =$

$1 + 7 =$

$2 + 7 =$

$2 + 7 =$

$9 - 7 =$

$9 - 7 =$

$7 + 3 =$

$7 + 3 =$

$10 - 3 =$

$3 + 7 =$

$3 + 7 =$

$1 + 7 =$

$10 - 7 =$

$8 - 7 =$

$*3 + 5 =$

$*9 - 7 =$

$*2 + 7 =$

$*1 + 6 =$

$9 - 6 =$

$2 + 6 =$

$9 - 4 =$

$4 + 5 =$

$2 + 7 =$

$8 - 6 =$

$3 + 6 =$

$7 - 4 =$

$8 - 5 =$

$6 - 5 =$

$7 - 5 =$

$2 + 7 =$

$6 + 4 - 5 =$

$3 + 7 - 6 =$

$2 + 1 + 7 =$

$10 - 7 + 6 =$

$7 + 2 - 5 =$

$8 + 2 - 6 =$

$9 - 6 + 5 =$

$10 - 7 - 2 =$

$9 - 7 + 5 =$

$*3 + 3 + 3 =$

$4 + 4 - 5 =$

$2 + 2 + 6 =$

$7 = 6 + \square$

$*4 + \square = 8$

$*10 = 5 + \square$

$10 = 7 + \square$

$2 + \square = 8$

$10 = 8 + \square$

$10 = 3 + \square$

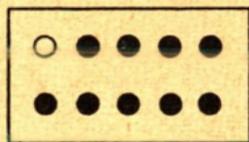
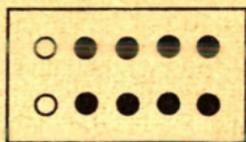
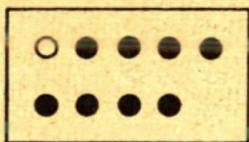
$3 + \square = 8$

$10 = 6 + \square$

$10 - \square = 6$

$10 - \square = 3$

$10 - \square = 5$



$8 + 1 =$

$2 + 8 =$

$9 - 1 =$

$1 + 8 =$

$1 + 8 =$

$8 + 1 =$

$9 - 8 =$

$10 - 8 =$

$8 + 2 =$

$8 + 2 =$

$10 - 1 =$

$9 + 1 =$

$2 + 8 =$

$1 + 9 =$

$10 - 2 =$

$9 - 8 =$

$9 + 1 =$

$1 + 8 =$

$10 - 8 =$

$2 + 8 =$

$1 + 9 =$

$9 + 1 =$

$10 - 9 =$

$10 - 1 =$

$9 - 4 =$

$*5 + 4 =$

$*10 - 6 =$

$*9 - 8 =$

$8 - 6 =$

$4 + 6 =$

$3 + 8 =$

$10 - 7 =$

$1 + 5 =$

$10 - 7 =$

$9 - 8 =$

$1 + 9 =$

$3 + 7 =$

$7 - 6 =$

$2 + 8 =$

$6 + 3 =$

$5 + 5 =$

$10 - 5 =$

$10 - 7 =$

$8 - 6 =$

$7 - 6 =$

$10 - 8 =$

$9 - 7 =$

$8 - 7 =$

$2 + 7 - 6 =$

$10 - 6 - 3 =$

$4 - 3 + 8 =$

$10 - 9 + 7 =$

$7 - 5 - 1 =$

$9 + 1 - 7 =$

$1 + 8 - 4 =$

$1 + 4 + 3 =$

$6 + 4 - 5 =$

$10 = 2 + \square$

$*8 + \square = 9$

$*10 - \square = 8$

$8 = 1 + \square$

$6 + \square = 10$

$10 - \square = 3$

$9 = 3 + \square$

$2 + \square = 7$

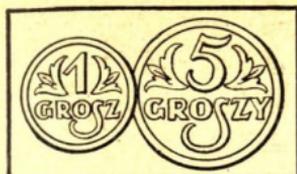
$10 - \square = 6$

$10 = 5 + \square$

$5 + \square = 8$

$10 - \square = 9$

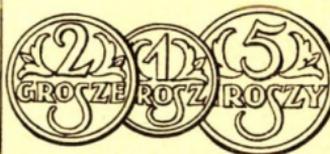
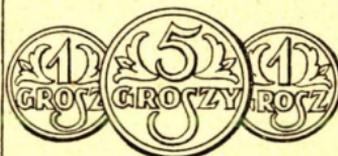
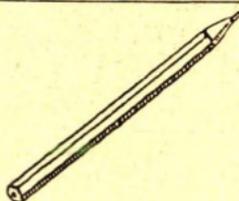
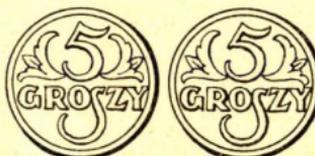
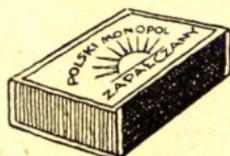
Ile to groszy?



Kupujemy

Płacimy

Ile groszy?



2	5	2	9
2	4	1	
3	1	4	

4	2	3	
5	1	4	
1	6	3	

1	4	3	
3	2	3	
4	2	2	

$5 + \square = 7$

$4 + \square = 8$

$4 + \square = 10$

$6 + \square = 9$

$7 + \square = 9$

$2 + \square = 8$

$3 + \square = 9$

$5 + \square = 8$

$2 + \square = 6$

$4 + \square = 7$

$6 + \square = 8$

$4 + \square = 9$

$1 + \square = 7$

$3 + \square = 7$

$9 - \square = 6$

$8 - \square = 6$

$7 - \square = 4$

$6 - \square = 2$

$10 - \square = 3$

$10 - \square = 6$

$8 - \square = 3$

$7 - \square = 5$

$9 - \square = 5$

$3 + \square = 6$

$3 + \square = 8$

$9 - \square = 3$

$8 - \square = 1$

$5 + \square = 9$

$7 - \square = 2$

$2 + \square = 8$

$5 - \square = 2$

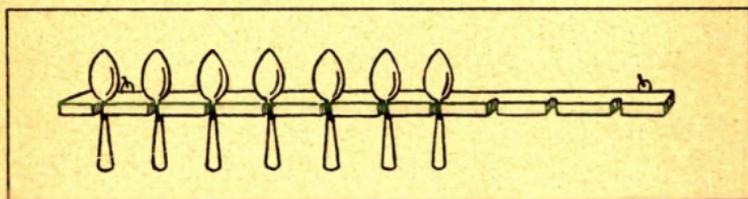
$1 + \square = 9$

$9 - \square = 2$

$4 + \square = 9$

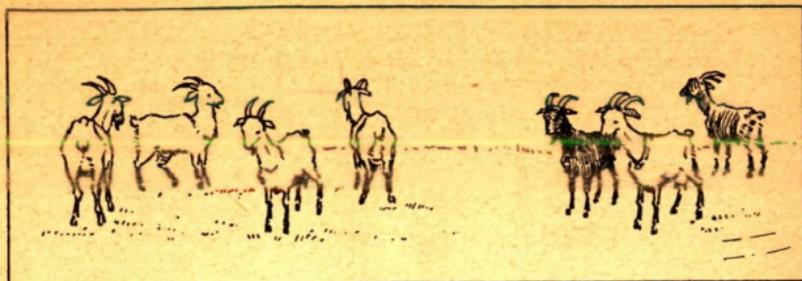
$7 - \square = 2$

$10 - \square = 4$



Na łyżniku było 10 łyżek, a jest 7. Ile łyżek brakuje?

Na stole było 8 jabłek, a jest 6. Ile jabłek brakuje?



Pasą się 4 kozy Juli i 3 kozy Jasia. Ile to kóz razem?

Pasą się 2 konie kare i 5 koni siwych. Ile to koni razem?

Pasą się gąski: 1 szara i 9 białych. Ile to gąsek razem?

Było 9 jaj. Ola zjadła 2 jaja. Ile jaj zostało?

Było 10 malin. Hela zjadła 6 malin. Ile zostało?

Mama miała 8 bułek. Hani dała 3 bułki i Oli dała 3 bułki. Ile bułek mamie zostało?

Jaś koniki poił.

— Policz mi je, proszę,

2 kare, 3 siwe

i 4 gniadosze.

$$*3 + 5 + 2 =$$

$$7 + 1 + 2 =$$

$$4 + 1 + 3 =$$

$$6 + 2 + 1 =$$

$$5 + 2 + 2 =$$

$$3 + 3 + 3 =$$

$$*2 + 4 + 3 =$$

$$1 + 6 + 3 =$$

$$2 + 3 + 1 =$$

$$1 + 4 + 3 =$$

$$4 + 4 + 2 =$$

$$6 + 3 + 1 =$$

$$*1 + 8 - 2 =$$

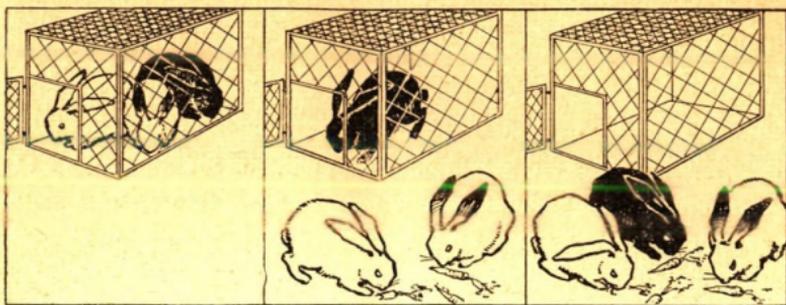
$$6 + 4 - 5 =$$

$$8 + 2 - 7 =$$

$$1 + 2 + 5 =$$

$$5 + 5 - 1 =$$

$$7 + 3 - 4 =$$



3

 $3 - 2 = 1$ $3 - 3 = 0$

$1 - 1 =$

$5 - 3 =$

$9 - 5 =$

$8 - 7 =$

$2 - 1 =$

$5 - 4 =$

$9 - 8 =$

$10 - 8 =$

$2 - 2 =$

$5 - 5 =$

$9 - 9 =$

$7 - 7 =$

$3 - 3 =$

$6 - 6 =$

$8 - 8 =$

$10 - 10 =$

$4 - 4 =$

$9 - 6 =$

$6 - 4 =$

$7 - 5 =$

$8 - 4 =$

$8 - 5 =$

$10 - 6 =$

$10 - 5 =$

$*4 - 2 =$

$*6 - 5 =$

$*10 - 5 =$

$*9 - 2 =$

$4 - 3 =$

$6 - 6 =$

$10 - 9 =$

$9 - 7 =$

$4 - 4 =$

$7 - 6 =$

$10 - 10 =$

$9 - 9 =$

$3 - 2 =$

$7 - 7 =$

$5 - 5 =$

$10 - 10 =$

$3 - 3 =$

$8 - 8 =$

$1 - 1 =$

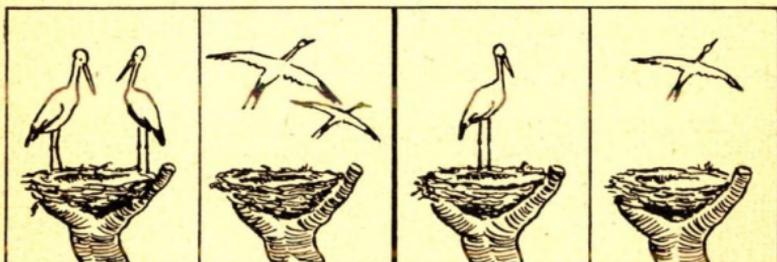
$10 - 6 =$

$7 - 4 =$

$9 - 6 =$

$9 - 5 =$

$8 - 6 =$

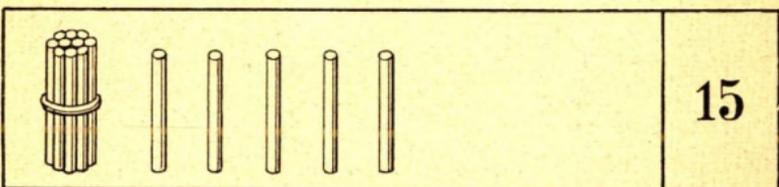
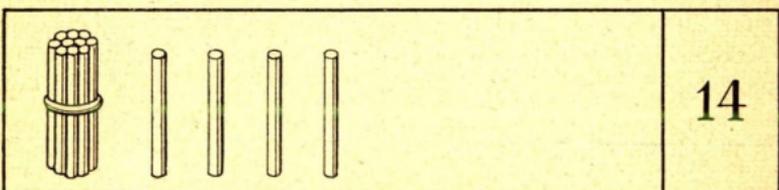
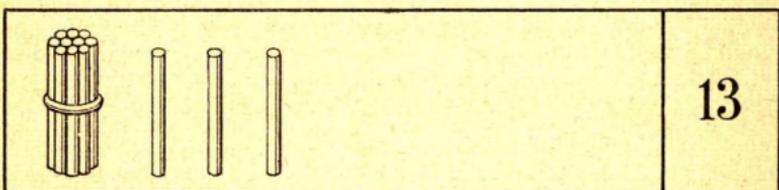
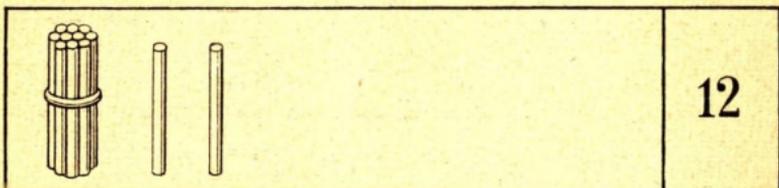
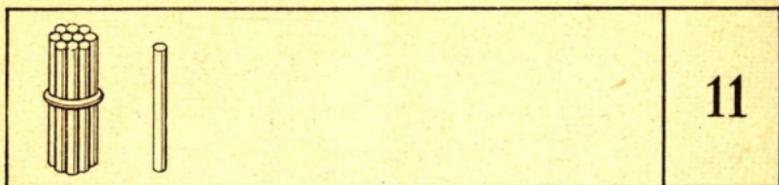
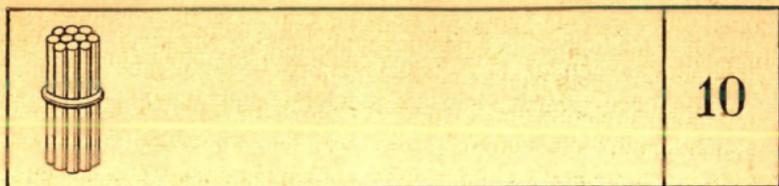


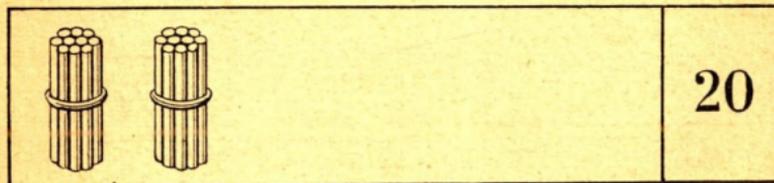
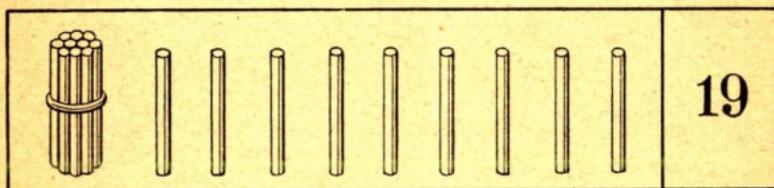
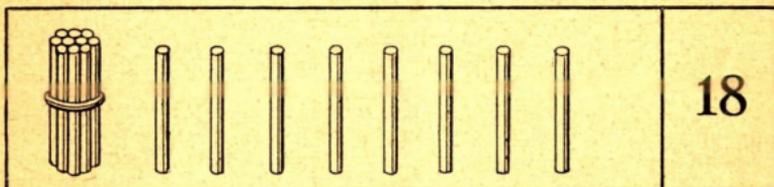
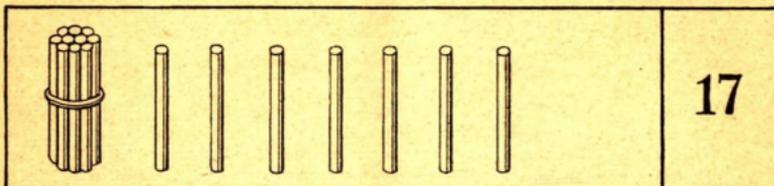
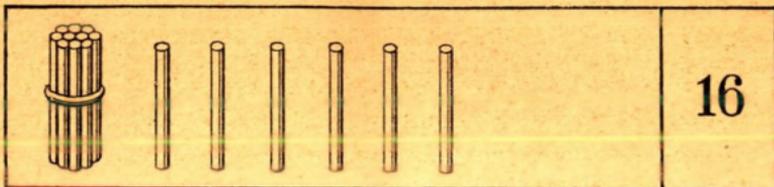
2

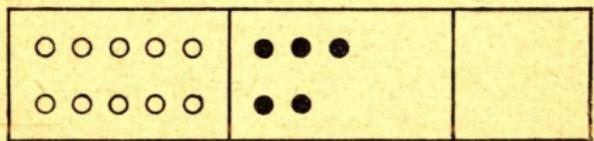
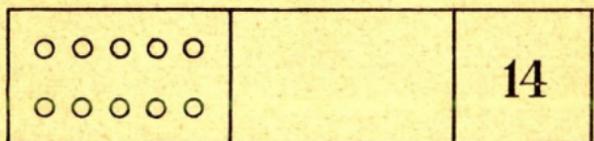
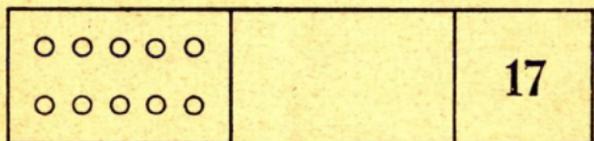
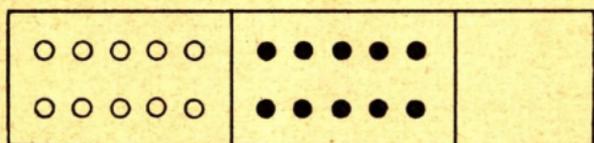
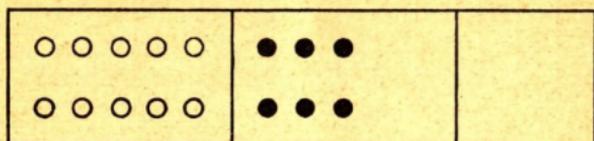
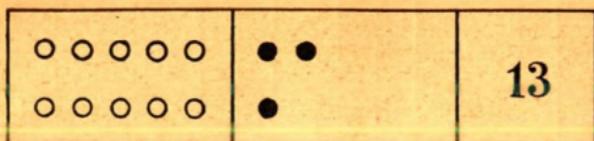
 $2 - 2 = 0$

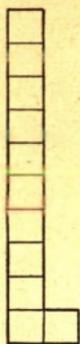
1

 $1 - 1 = 0$







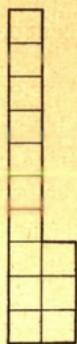












$11 = 10 + \square$

$15 = 10 + \square$

$12 = 10 + \square$

$16 = 10 + \square$

$20 = 10 + \square$

$10 + 9 =$

$10 + 5 =$

$10 + 10 =$

$10 + 6 =$

$10 + 4 =$

$10 + 8 =$

$10 + 2 =$

$10 + 7 =$

$10 + 1 =$

$10 + 3 =$

$18 - 8 =$

$13 - 3 =$

$15 - 5 =$

$20 - 10 =$

$11 - 1 =$

$12 - \square = 10$

$17 - \square = 10$

$20 - \square = 10$

$16 - \square = 10$

$19 - \square = 10$

$16 - 6 =$

$19 - 9 =$

$12 - 2 =$

$14 - 4 =$

$15 - 5 =$

$3 + 7 + 1 =$

$8 + 2 + 8 =$

$5 + 5 + 5 =$

$*17 - 7 + 9 =$

$11 - 1 + 5 =$

$19 - 9 + 8 =$

$*6 + 4 + 4 =$

$12 - 2 + 2 =$

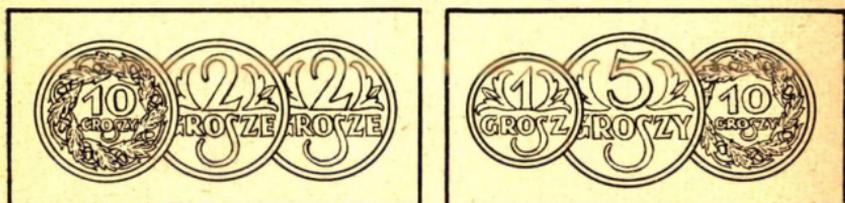
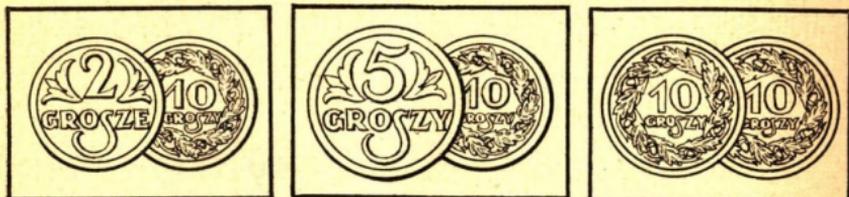
$3 + 7 + 7 =$

$*1 + 9 + 9 =$

$13 - 3 + 5 =$

$4 + 6 + 10 =$

Ile to groszy?



$$\begin{array}{rcl}
 10 + 5 = & 6 + \square = 16 & 12 - 2 = \\
 5 + 10 = & 9 + \square = 19 & 12 - 10 = \\
 10 + 8 = & 7 + 10 = & 17 - 7 = \\
 8 + 10 = & 1 + 10 = & 17 - 10 = \\
 & & 13 - \square = 3 \\
 & & 18 - \square = 8 \\
 & & 15 - \square = 5 \\
 & & 19 - \square = 9
 \end{array}$$

$$\begin{array}{rcl}
 *10 + 3 = & *2 + 10 = & *19 - 9 = & *14 - 10 = \\
 4 + 10 = & 10 + 9 = & 10 + 1 = & 7 + 10 = \\
 18 - 10 = & 15 - 5 = & 16 - 10 = & 17 - 10 =
 \end{array}$$

$$\begin{array}{rcl}
 4 + 6 + 5 = & *17 - 7 + 2 = & *9 + 1 + 9 = \\
 3 + 7 + 6 = & 15 - 5 + 1 = & 18 - 8 + 5 = \\
 8 + 1 + 10 = & 20 - 10 + 4 = & 19 - 9 + 7 =
 \end{array}$$

			
cena 10 groszy	cena 4 grosze	cena 6 groszy	cena 8 groszy

Jaś kupił zapalki i bułkę. Ile zapłacił za wszystko?

Ewa kupiła jajko i zapalki. Ile zapłaciła za wszystko?

Olek kupił gwizdek i zapalki. Ile zapłacił za wszystko?

Miałem 15 groszy. Kupiłem zapalki. Ile groszy mi zostało?

Miałem 10 groszy. Kupiłem gwizdek. Ile groszy mi zostało?

Miałem 20 groszy. Kupiłem bułkę i jajko. Ile groszy mi zostało?

$$*10 + 10 =$$

$$10 + 6 =$$

$$10 - 6 =$$

$$12 - 2 =$$

$$*17 - \square = 10$$

$$17 - \square = 7$$

$$13 - \square = 3$$

$$15 - \square = 10$$

$$*20 - 10 =$$

$$18 - 10 =$$

$$10 + 4 =$$

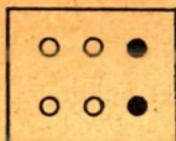
$$10 + 8 =$$

$$*10 + \square = 20$$

$$10 + \square = 16$$

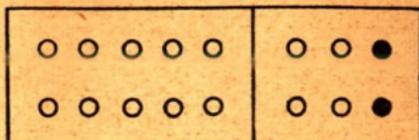
$$11 - \square = 10$$

$$10 + \square = 19$$



$$4 + 2 = 6$$

$$6 - 2 = 4$$



$$14 + 2 = 16$$

$$16 - 2 = 14$$

Ile to groszy?



$$4 + 3 = \quad 1 + 8 = \quad 6 - 1 = \quad 8 - 3 =$$

$$14 + 3 = \quad 11 + 8 = \quad 16 - 1 = \quad 18 - 3 =$$

$$14 + 1 = \quad 11 + 5 = \quad 16 - 3 = \quad 18 - 6 =$$

$$14 + 5 = \quad 11 + 4 = \quad 16 - 5 = \quad 18 - 7 =$$

$$12 + \square = 13 \quad 13 + 3 = \quad 17 - \square = 16$$

$$12 + \square = 17 \quad 14 + 4 = \quad 17 - \square = 12$$

$$15 + \square = 17 \quad 12 + 2 = \quad 17 - \square = 14$$

$$15 + \square = 19 \quad 11 + 1 = \quad 18 - \square = 14$$

$$* 15 + 5 = \quad * 19 - 6 = \quad * 18 - 5 =$$

$$13 + 6 = \quad 16 - 3 = \quad 12 - 2 =$$

$$17 + 3 = \quad 17 - 4 = \quad 20 - 10 =$$

$$11 + 8 = \quad 15 - 2 = \quad 14 - 3 =$$

$$16 - 4 = \quad 12 + 7 = \quad * 19 - 8 = \quad * 16 + 4 =$$

$$13 + 3 = \quad 12 + 8 = \quad 13 + 6 = \quad 18 - 8 =$$

$$20 - 10 = \quad 11 - 1 = \quad 14 - 3 = \quad 12 + 6 =$$

$$17 - 5 = \quad 19 + 1 = \quad 17 - 2 = \quad 16 - 5 =$$



Na choince paliło się 15 świeczek. Zgasły 4 świece. Ile świeczek pali się jeszcze na choince?

Mama zawiesiła na choince 11 jabłek, potem jeszcze 3 jabłka. Ile jabłek razem zawiesiła mama na choince?

Hania kupiła na choinkę aniolka za 14 groszy i gwiazdkę za 5 groszy. Ile zapłaciła razem?

$14 + 3 =$

$16 - 5 =$

$13 + 6 =$

$18 - 8 =$

$10 + 7 =$

$19 - 8 =$

$12 + 7 =$

$19 - 8 =$

$11 + 8 =$

$17 - 6 =$

$10 + 6 =$

$17 - 5 =$

$18 + 1 =$

$14 - 3 =$

$17 + 2 =$

$14 - 3 =$

$*16 + 3 =$

$*15 - 10 =$

$*19 - 5 =$

$16 - 3 =$

$11 + \square = 15$

$14 + 5 =$

$17 + 2 =$

$19 - \square = 15$

$10 + 9 =$

$17 - 2 =$

$18 = 15 + \square$

$16 + 3 =$

$*11 = 10 + \square$

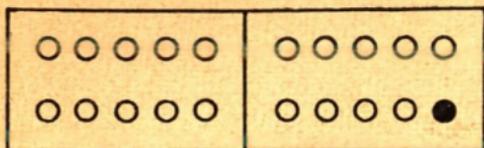
$18 = 14 + \square$

$16 = 10 + \square$

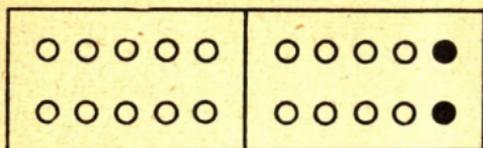
$15 = 11 + \square$

Na choince wisiało 18 orzechów. Dzieci zjadły 5. Ile orzechów zostało na choince?

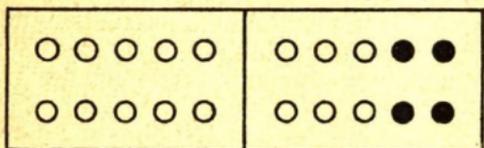
Na choince wisiało 15 cukierków. Dzieci zjadły 4. Ile cukierków zostało na choince?



$$19 + \square = 20$$



$$18 + \square = 20$$



$$16 + \square = 20$$

$$17 + \square = 20$$

$$15 + \square = 20$$

$$14 + \square = 20$$

$$11 + \square = 20$$

$$13 + \square = 20$$

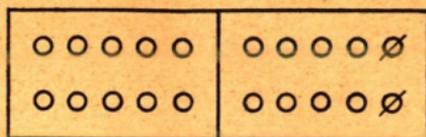
$$12 + \square = 20$$

$$\begin{array}{llll} 14 + 6 = & 11 + 9 = & 13 + 7 = & 20 = 18 + \square \\ 19 + 1 = & 18 + 2 = & 16 + 4 = & 20 = 14 + \square \\ 17 + 3 = & 15 + 5 = & 12 + 8 = & 20 = 11 + \square \end{array}$$

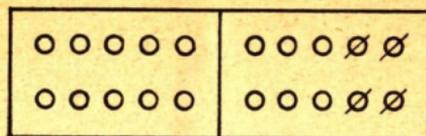
$$\begin{array}{llll} 15 + 2 = & 17 + 1 = & *11 + 6 = & *12 + 8 = \\ 15 + 5 = & 17 + 3 = & 11 + 9 = & 11 + 8 = \\ 14 + 5 = & 13 + 3 = & 10 + 9 = & 11 + 9 = \end{array}$$

$$\begin{array}{lll} 13 + 3 + 4 = & 17 + 2 + 1 = & *12 + 7 + 1 = \\ 8 + 2 + 10 = & 15 - 4 + 9 = & 12 + 8 - 9 = \\ 18 - 4 + 6 = & 3 + 7 + 8 = & 4 + 4 + 2 = \end{array}$$

$$\begin{array}{l} *12 + \square = 20 \\ 17 + \square = 20 \\ 11 + \square = 20 \end{array}$$



$$20 - 2 =$$



$$20 - 4 =$$

$20 - 1 =$	$20 - 6 =$	$20 - \square = 15$	$20 - \square = 11$
$20 - 2 =$	$20 - 7 =$	$20 - \square = 18$	$20 - \square = 17$
$20 - 3 =$	$20 - 8 =$	$20 - \square = 12$	$20 - \square = 13$
$20 - 4 =$	$20 - 9 =$	$20 - \square = 19$	$20 - \square = 14$
$20 - 5 =$	$20 - 10 =$		

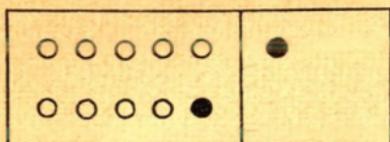
$12 + 8 =$	$14 + 6 =$	$17 + 3 =$	$19 + 1 =$
$20 - 8 =$	$20 - 6 =$	$20 - 3 =$	$20 - 1 =$
$18 + 2 =$	$16 + 4 =$	$13 + 7 =$	$11 + 9 =$
$20 - 2 =$	$20 - 4 =$	$20 - 7 =$	$20 - 9 =$

$*18 - 4 =$	$*13 - 2 =$	$*19 - 7 =$	$*16 - 5 =$
$20 - 4 =$	$20 - 2 =$	$20 - 7 =$	$20 - 9 =$
$13 + 6 =$	$11 + 8 =$	$12 + 5 =$	$11 + 7 =$
$20 - 6 =$	$20 - 8 =$	$20 - 5 =$	$20 - 1 =$

Mama Józi ma 12 pstrych kurek i 8 białych.
Ile to razem?

Mama Antka ma 15 kurek pstrych i 3 białe.
Ile to razem?

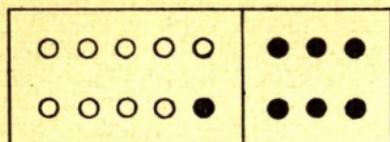
Zosia miała 10 kurek, Hania 16 kurek. Hania oddała Zosi 3 kurki. Ile kurek ma teraz Hania, a ile Zosia?



$$9 + 1 =$$

$$9 + 1 + 1 =$$

$$9 + 2 =$$



$$9 + 1 =$$

$$9 + 1 + 6 =$$

$$9 + 7 =$$

$$9 + 1 =$$

$$9 + 1 + 1 =$$

$$9 + 2 =$$

$$9 + 1 + 2 =$$

$$9 + 3 =$$

$$4 = 1 + \square$$

$$9 + 1 + 3 =$$

$$9 + 4 =$$

$$9 + 1 + 4 =$$

$$9 + 5 =$$

$$6 = 1 + \square$$

$$9 + 6 =$$

$$7 = 1 + \square$$

$$9 + 7 =$$

$$9 + 8 =$$

$$9 = 1 + \square$$

$$9 + 9 =$$

$$9 + 5 =$$

$$9 + 7 =$$

$$9 + 2 =$$

$$9 + \square = 10$$

$$9 + \square = 11$$

$$9 + \square = 14$$

$$9 + \square = 13$$

$$9 + \square = 12$$

$$*9 + \square = 15$$

$$9 + \square = 18$$

$$9 + \square = 16$$

$$9 + \square = 19$$

$$9 + \square = 17$$

$$*9 + 4 =$$

$$10 + 8 =$$

$$3 + 7 =$$

$$9 + 7 =$$

$$9 + 5 =$$

$$9 + 3 + 5 =$$

$$9 + 6 - 5 =$$

$$20 - 3 + 1 =$$

$$11 + 9 - 4 =$$

$$1 + 3 + 7 =$$

$$9 + 8 + 2 =$$

$$12 + 8 - 5 =$$

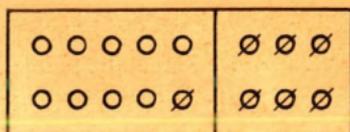
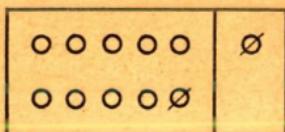
$$20 - 8 + 5 =$$

$$9 + 2 + 7 =$$

$$6 + 3 + 4 =$$

$$20 - 5 + 1 =$$

$$16 + 4 - 7 =$$



$$11 - 1 =$$

$$10 - 1 =$$

$$11 - 2 =$$

$$16 - 6 =$$

$$10 - 1 =$$

$$16 - 7 =$$

$$11 - 1 =$$

$$15 - 5 =$$

$$12 - \square = 10$$

$$13 - 1 =$$

$$11 - 2 =$$

$$15 - 6 =$$

$$12 - \square = 9$$

$$13 - \square = 10$$

$$12 - 2 =$$

$$16 - 6 =$$

$$18 - \square = 10$$

$$13 - 4 =$$

$$12 - 3 =$$

$$16 - 7 =$$

$$18 - \square = 9$$

$$17 - 4 =$$

$$13 - 3 =$$

$$17 - 7 =$$

$$16 - \square = 10$$

$$17 - \square = 10$$

$$13 - 4 =$$

$$17 - 8 =$$

$$16 - \square = 9$$

$$17 - 8 =$$

$$14 - 4 =$$

$$18 - 8 =$$

$$14 - \square = 9$$

$$19 - 9 =$$

$$14 - 5 =$$

$$18 - 9 =$$

$$17 - \square = 9$$

$$18 - 9 =$$

$$9 + 5 =$$

$$9 + 3 =$$

$$15 + 2 - 8 =$$

$$9 + 5 + 6 =$$

$$14 - 5 =$$

$$12 - 3 =$$

$$11 + 4 - 6 =$$

$$7 + 2 + 7 =$$

$$9 + 7 =$$

$$9 + 8 =$$

$$10 + 8 - 9 =$$

$$9 + 7 - 8 =$$

$$16 - 7 =$$

$$17 - 9 =$$

$$20 - 9 - 2 =$$

$$18 - 3 - 5 =$$

$$9 + 9 =$$

$$9 + 4 =$$

$$20 - 7 - 3 =$$

$$18 - 9 + 2 =$$

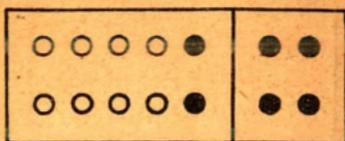
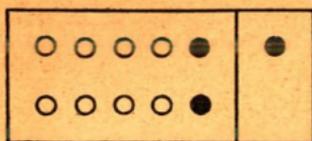
$$18 - 9 =$$

$$13 - 4 =$$

$$20 - 1 - 5 =$$

$$16 - 7 + 3 =$$

Józio zrobił 14 wagoników z pudełek od zapalek. 5 wagoników pomalował na zielono, resztę wagoników na czerwono. Ile miał czerwonych wagoników?



$$8 + 2 =$$

$$8 + 2 + 1 =$$

$$8 + 3 =$$

$$8 + 2 =$$

$$8 + 2 + 4 =$$

$$8 + 6 =$$

$$8 + 2 =$$

$$5 = 2 + \square$$

$$8 + 2 + 3 =$$

$$8 + 5 =$$

$$7 = 2 + \square$$

$$8 + 2 + 5 =$$

$$8 + 7 =$$

$$8 + 3 =$$

$$9 = 2 + \square$$

$$8 + 2 + 7 =$$

$$8 + 9 =$$

$$8 + 8 =$$

$$6 = 2 + \square$$

$$8 + 2 + 4 =$$

$$8 + 6 =$$

$$8 + 4 =$$

$$*8 + \square = 10$$

$$8 + \square = 12$$

$$8 + \square = 15$$

$$8 + \square = 18$$

$$*8 + \square = 11$$

$$8 + \square = 14$$

$$8 + \square = 17$$

$$8 + \square = 13$$

$$*8 + 4 =$$

$$9 + 4 =$$

$$8 + 7 =$$

$$9 + 7 =$$

$$*8 + 8 =$$

$$9 + 8 =$$

$$9 + 9 =$$

$$8 + 9 =$$

$$8 + 3 - 2 =$$

$$9 + 5 + 5 =$$

$$18 - 10 + 7 =$$

$$17 - 8 + 1 =$$

$$10 - 2 + 4 =$$

$$20 - 8 - 3 =$$

$$17 + 3 - 9 =$$

$$8 + 8 + 4 =$$

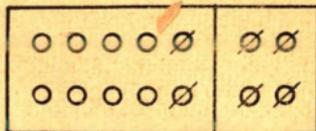
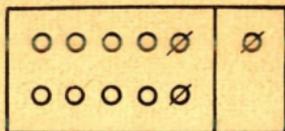
$$9 + 7 - 6 =$$

$$8 + 8 + 4 =$$

$$11 - 3 + 9 =$$

$$11 + 9 - 7 =$$

Staś sypał groch swoim gołębiom. Przyleciało tylko 8 jego gołębi; brakuje jeszcze 6 gołębi. Ile gołębi ma Staś?



$$11 - 1 =$$

$$11 - 3 =$$

$$14 - 4 =$$

$$14 - 6 =$$

$$10 - 2 =$$

$$16 - 6 =$$

$$15 - 5 =$$

$$15 - \square = 10$$

$$12 - 2 =$$

$$16 - 8 =$$

$$15 - 7 =$$

$$15 - \square = 8$$

$$12 - 4 =$$

$$14 - 4 =$$

$$17 - 7 =$$

$$15 - \square = 9$$

$$13 - 3 =$$

$$14 - 6 =$$

$$17 - 9 =$$

$$12 - \square = 9$$

$$13 - 5 =$$

$$11 - 3 =$$

$$17 - 8 =$$

$$12 - \square = 8$$

$$*13 - 5 =$$

$$*16 - 6 =$$

$$*17 - 9 =$$

$$*16 - 4 =$$

$$16 - 7 =$$

$$16 - 8 =$$

$$16 - 7 =$$

$$12 - 4 =$$

$$8 + 4 =$$

$$9 + 3 =$$

$$8 + 3 =$$

$$8 + 6 =$$

$$9 + 6 =$$

$$8 + 5 =$$

$$7 + 5 =$$

$$9 + 5 =$$

$$20 - 8 - 4 =$$

$$17 - 8 + 5 =$$

$$12 + 5 - 8 =$$

$$14 - 5 - 2 =$$

$$11 + 9 - 3 =$$

$$20 - 9 + 6 =$$

$$16 - 8 + 3 =$$

$$17 - 9 + 4 =$$

$$8 + 6 + 6 =$$

$$9 + 7 + 4 =$$

$$15 - 7 + 8 =$$

$$9 + 8 - 10 =$$

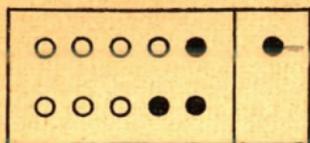
$$8 + 8 - 6 =$$

$$9 + 9 + 2 =$$

$$15 - 6 + 1 =$$

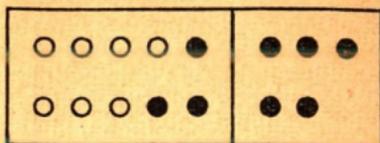
$$13 - 5 + 2 =$$

Jadzia miała 17 kasztanów. Z 3 kasztanów zrobiła koszyczki, z 6 kasztanów miseczki, a resztę dała Zosi. Ile kasztanów dała Zosi?



$$7 + \square = 10$$

$$7 + 4 =$$



$$7 + 3 =$$

$$7 + 8 =$$

$$7 + 3 = \quad 7 + 3 + 3 = \quad 7 + 3 + 4 = \quad 6 + 4 =$$

$$7 + 5 = \quad 7 + 6 = \quad 7 + 7 = \quad 7 + 4 =$$

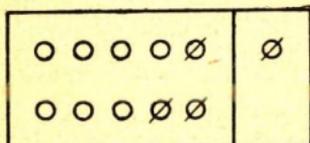
$$7 + 8 = \quad 7 + 4 = \quad 7 + 9 = \quad 9 + 7 =$$

$$7 + \square = 11 \quad *8 + 5 = \quad *7 + 7 - 5 =$$

$$7 + \square = 15 \quad 7 + 5 = \quad 18 - 9 + 2 =$$

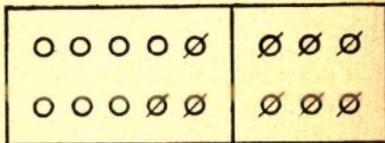
$$7 + \square = 17 \quad 8 + 7 = \quad 16 - 7 + 7 =$$

$$7 + \square = 13 \quad 7 + 8 = \quad 15 - 6 + 7 =$$



$$11 - 1 =$$

$$11 - 4 =$$



$$16 - 6 =$$

$$16 - 9 =$$

$$10 - 3 = \quad 14 - 4 = \quad 16 - 6 = \quad 11 - \square = 7$$

$$11 - 4 = \quad 14 - 7 = \quad 16 - 7 = \quad 15 - \square = 7$$

$$15 - 5 = \quad 13 - 3 = \quad 16 - 9 = \quad 12 - \square = 7$$

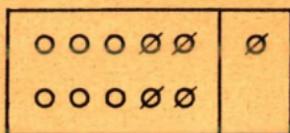
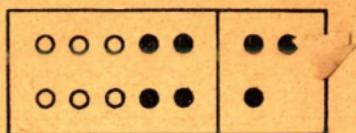
$$15 - 8 = \quad 13 - 6 = \quad 17 - 9 = \quad 16 - \square = 7$$

$$*12 - 5 = \quad *17 - 9 = \quad *15 - 6 + 7 =$$

$$7 + 5 = \quad 15 - 8 = \quad 15 - 8 + 3 =$$

$$14 - 5 = \quad 7 + 4 = \quad 7 + 7 - 5 =$$

Zagadka: — Hejże, panie ogrodniku,
ile jabłek masz w koszyku?
— Jak mi 8 dołożycie,
to 15 naliczycie.



$$6 + \square = 10$$

$$6 + 7 =$$

$$11 - 1 =$$

$$11 - 5 =$$

$$6 + 4 = \quad 6 + 4 + 2 = \quad 6 + \square = 11 \quad 7 + 6 =$$

$$6 + 5 = \quad 6 + 6 = \quad 6 + \square = 15 \quad 8 + 8 =$$

$$6 + 7 = \quad 6 + 8 = \quad 6 + \square = 13 \quad 6 + 9 =$$

$$11 - 1 = \quad 12 - 2 = \quad *13 - 3 = \quad *15 - 5 =$$

$$11 - 5 = \quad 12 - 6 = \quad 13 - 7 = \quad 15 - 9 =$$

$$12 - 5 = \quad 14 - 6 = \quad 15 - 7 = \quad 18 - 9 =$$

$$*12 + 6 = \quad *19 - 6 = \quad *11 + 5 = \quad 13 + 7 - 6 =$$

$$12 - 6 = \quad 16 - 9 = \quad 11 - 5 = \quad 6 + 6 + 8 =$$

$$6 + 8 = \quad 6 + 7 = \quad 9 + 5 = \quad 14 - 6 + 4 =$$

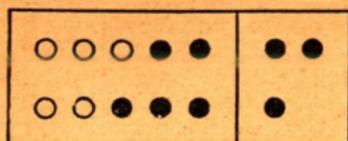
$$6 + 5 = \quad 16 - 7 = \quad 15 - 9 = \quad 20 - 7 - 7 =$$

$$8 + 6 + 4 = \quad 9 + 3 - 8 = \quad 14 - 8 + 2 =$$

$$7 + 7 - 5 = \quad 13 + 6 - 10 = \quad 6 + 9 - 8 =$$

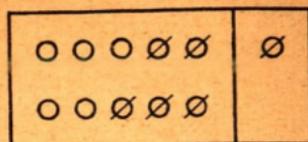
$$20 - 6 - 6 = \quad 18 - 9 + 6 = \quad 6 + \square = 14$$

Lecą samoloty. Maciuś patrzy w górę i liczy: 6 i jeszcze 8, i jeszcze 3. Ile samolotów naliczył Maciuś razem?



$$5 + \square = 10$$

$$5 + 8 =$$



$$11 - 1 =$$

$$11 - 6 =$$

$$5 + 5 =$$

$$5 + 6 =$$

$$5 + 8 =$$

$$5 + 9 =$$

$$5 + 7 =$$

$$5 + \square = 12$$

$$5 + \square = 15$$

$$5 + \square = 14$$

$$5 + \square = 11$$

$$5 + \square = 13$$

$$5 + 7 =$$

$$7 + 8 =$$

$$14 - 7 =$$

$$17 - 4 =$$

$$12 - 7 =$$

$$5 + 8 + 7 =$$

$$20 - 11 + 5 =$$

$$5 + 6 + 9 =$$

$$7 + 5 + 7 =$$

$$18 - 9 + 3 =$$

$$12 - 2 =$$

$$12 - 5 =$$

$$12 - 7 =$$

$$14 - 4 =$$

$$14 - 6 =$$

$$14 - 9 =$$

$$11 - 1 =$$

$$11 - 4 =$$

$$11 - 6 =$$

$$13 - 3 =$$

$$13 - 5 =$$

$$13 - 8 =$$

$$*12 + 7 =$$

$$12 - 7 =$$

$$13 - 4 =$$

$$13 - 8 =$$

$$*11 + 6 =$$

$$11 - 6 =$$

$$16 - 8 =$$

$$18 - 6 =$$

$$*4 + 9 =$$

$$14 - 9 =$$

$$19 + 1 =$$

$$17 - 9 =$$

$$12 + 8 - 9 =$$

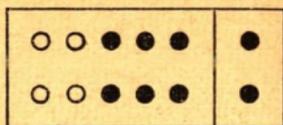
$$13 - 8 + 5 =$$

$$5 + 6 + 9 =$$

$$12 - 7 + 6 =$$

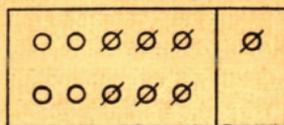
Pawełek kupił za 5 groszy papieru i za 8 groszy zeszyt. Ile groszy zapłacił razem?

Hela miała 14 groszy. Kupiła ołówek za 9 groszy. Ile groszy jej zostało?



$$4 + \square = 10$$

$$4 + 8 =$$



$$11 - 1 =$$

$$11 - 7 =$$

$$4 + 6 = 4 + \square = 11 \quad 9 + 4 + 7 = 8 + 7 - 9 =$$

$$4 + 7 = 4 + \square = 13 \quad 4 + 7 + 9 = 4 + 8 - 3 =$$

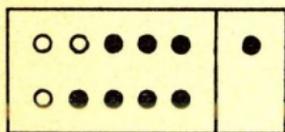
$$4 + 9 = 4 + \square = 12 \quad 8 + 4 + 8 = 16 - 8 + 2 =$$

$$4 + 8 = 4 + \square = 14 \quad 4 + 8 - 2 = 4 + 9 - 4 =$$

$$12 - 2 = \quad 11 - 1 = \quad 13 - 3 = \quad 11 - \square = 4$$

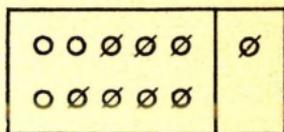
$$12 - 6 = \quad 11 - 3 = \quad 13 - 6 = \quad 13 - \square = 4$$

$$12 - 8 = \quad 11 - 7 = \quad 13 - 9 = \quad 12 - \square = 4$$



$$3 + \square = 10$$

$$3 + 8 =$$



$$11 - 1 =$$

$$11 - 8 =$$

$$3 + 7 = \quad 3 + \square = 10 \quad 8 + 3 = \quad 9 + 3 =$$

$$3 + 8 = \quad 3 + \square = 12 \quad 3 + 8 = \quad 3 + 9 =$$

$$3 + 9 = \quad 3 + \square = 11 \quad 5 + 8 = \quad 9 + 9 =$$

$$11 - 1 = \quad 12 - 2 = \quad *13 - 3 = \quad *16 - 8 =$$

$$11 - 4 = \quad 12 - 6 = \quad 13 - 5 = \quad 14 - 7 =$$

$$11 - 8 = \quad 12 - 8 = \quad 13 - 9 = \quad 12 - 7 =$$

$$3 + 3 + 8 = \quad 14 - 8 + 6 = \quad *17 - 9 - 5 =$$

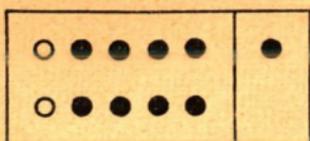
$$4 + 9 - 3 = \quad 3 + 9 + 8 = \quad 6 + 7 + 5 =$$

$$5 + 7 + 8 = \quad 9 + 3 - 2 = \quad 11 - 5 + 4 =$$

$$*12 - 9 + 7 =$$

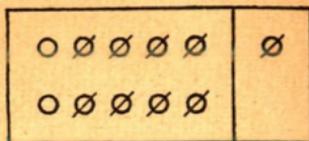
$$14 - 9 + 5 =$$

$$16 - 9 + 3 =$$



$$2 + \square = 10$$

$$2 + 9 =$$



$$11 - 1 =$$

$$11 - 9 =$$

$$2 + 9 =$$

$$9 + \square = 11$$

$$3 + 6 =$$

$$4 + 5 =$$

$$9 + 2 =$$

$$2 + \square = 11$$

$$3 + 9 =$$

$$4 + 7 =$$

$$9 + 5 =$$

$$4 + \square = 11$$

$$3 + 8 =$$

$$4 + 9 =$$

$$9 + 9 =$$

$$8 + \square = 11$$

$$3 + 7 =$$

$$4 + 6 =$$

$$8 + 3 =$$

$$7 + \square = 11$$

$$3 + 5 =$$

$$4 + 5 =$$

$$11 - 10 =$$

$$11 - 9 =$$

$$11 - \square = 9$$

$$20 - 9 + 3 =$$

$$11 - 9 =$$

$$11 - 5 =$$

$$12 - \square = 3$$

$$17 - 8 + 9 =$$

$$11 - 8 =$$

$$11 - 7 =$$

$$13 - \square = 5$$

$$8 + 7 + 5 =$$

$$11 - 6 =$$

$$11 - 4 =$$

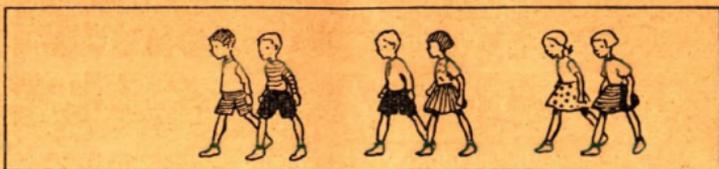
$$16 - \square = 7$$

$$15 - 9 + 6 =$$

W klasie było 16 ławek; z nich 9 ławek wynieśli do naprawy, a przynieśli 5 nowych ławek. Ile jest teraz ławek w klasie?

W ogródku jest 17 zagonków. Dzieci podlały już 8 zagonków. Ile jeszcze zagonków trzeba podlać?

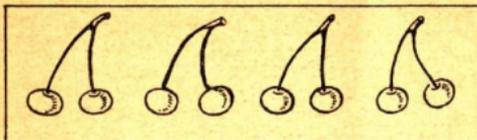
Na boisku bawiło się 15 dzieci. 7 z nich odeszło do domu, a przybiegło 4 innych dzieci ze szkoły; bawią się razem w berka. Ile dzieci bawi się w berka?



$$2 + 2 + 2 = 6$$

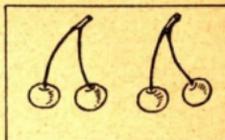
3 razy po 2 to 6.

$$3 \cdot 2 = 6$$



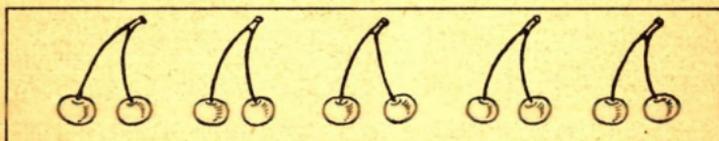
$$2 + 2 + 2 + 2 = 8$$

$$4 \cdot 2 = 8$$



$$2 + 2 = \square$$

$$2 \cdot 2 = \square$$



$$2 + 2 + 2 + 2 + 2 = \square$$

$$5 \cdot 2 = \square$$

$$2 + 2 + 2 = \square$$

$$2 + 2 + 2 + 2 + 2 =$$

$$2 + 2 =$$

$$2 + 2 + 2 + 2 =$$

$$3 \cdot 2 = \square$$

$$5 \cdot 2 =$$

$$2 \cdot 2 =$$

$$4 \cdot 2 =$$

$$5 \cdot 2 =$$

$$2 \cdot 2 =$$

$$4 \cdot 2 =$$

$$3 \cdot 2 =$$

Wuj ma 3 pary koni. Ile to koni?

Józio ma 5 par gołębi. Ile to gołębi?

Marysia ma 2 pary królików. Ile to królików?

Za ołówek Jaś zapłacił

Ile kosztował ołówek?





$$5 + 5 + 5 =$$

3 razy po 5 to...

$$3 \cdot 5 =$$

Ile jest makówek w 2 takich pęczkach?

Ile jest makówek w 4 takich pęczkach?

$$5 + 5 =$$

$$5 + 5 + 5 + 5 =$$

$$2 \cdot 5 =$$

$$4 \cdot 5 =$$

Narysuj 3 razy po 5 kresek. Oblicz, ile to kresek. $3 \cdot 5 =$

Narysuj 2 razy po 5 kółeczek. Oblicz, ile to kółeczek. $2 \cdot 5 =$

$$4 \cdot 5 =$$

$$3 \cdot 5 =$$

$$2 \cdot 5 =$$

$$5 \cdot 2 =$$

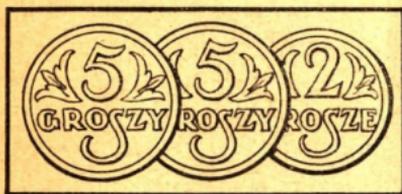
$$4 \cdot 2 =$$

$$3 \cdot 2 =$$

$$2 \cdot 2 =$$

$$2 \cdot 5 =$$

Ile to groszy?



Staś kupił 2 gwizdki po 5 groszy i cukierek za 3 grosze. Ile zapłacił za wszystko?

Oleś miał 20 groszy. Kupił 2 haczyki do wędki po 5 groszy. Ile groszy mu zostało?

Julcia miała 15 groszy. Kupiła 4 igły po 2 grosze. Ile groszy jej zostało?

$$*2 + 5 =$$

$$3 + 2 =$$

$$4 + 2 =$$

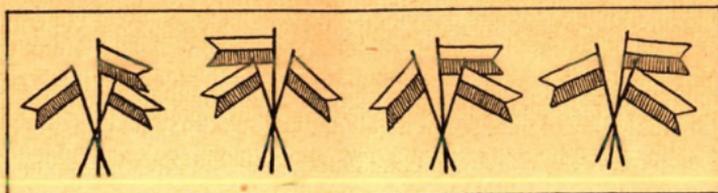
$$3 + 5 =$$

$$2 \cdot 5 =$$

$$3 \cdot 2 =$$

$$4 \cdot 2 =$$

$$3 \cdot 5 =$$



$$3 + 3 + 3 + 3 =$$

4 razy po 3 to...

$$4 \cdot 3 =$$

Narysuj 2 razy po 3 chorągiewki. Podpisz $2 \cdot 3 =$

Narysuj 3 razy po 3 chorągiewki. Podpisz $3 \cdot 3 =$

Narysuj 5 razy po 3 chorągiewki. Podpisz $5 \cdot 3 =$

$$3 \cdot 3 = \quad 3 \cdot 2 = \quad 4 \cdot 2 = \quad 2 \cdot 5 = \quad 3 \cdot 3 =$$

$$5 \cdot 3 = \quad 3 \cdot 5 = \quad 4 \cdot 5 = \quad 2 \cdot 3 = \quad 5 \cdot 3 =$$

$$2 \cdot 3 = \quad 3 \cdot 3 = \quad 4 \cdot 3 = \quad 2 \cdot 2 = \quad 2 \cdot 5 =$$

$$4 \cdot 3 = \quad 5 \cdot 3 = \quad 3 \cdot 2 = \quad 3 \cdot 3 = \quad 5 \cdot 2 =$$

Antoś ma 4 króliki. Przyniósł im pęczek marchewek. Każdemu królikowi dał po 3 marchewki. Zostało jeszcze 6 marchewek. Ile marchewek było w pęczku?

Mama zerwała 10 gruszek. Dała Frani, Zosi i Jankowi po 3 gruszki. Ile gruszek zostało mamie?

Janek bawi się wojskiem. Ustawił 4 armatki, koło każdej po 3 żołnierzy. W pudełku zostało mu jeszcze 3 żołnierzy. Ile żołnierzy miał Janek?

$$\begin{array}{l} *3 + 5 = \quad *2 + 3 = \quad *4 + 3 = \quad *5 + 2 = \\ 3 \cdot 5 = \quad 2 \cdot 3 = \quad 4 \cdot 3 = \quad 5 \cdot 2 = \end{array}$$

$$\begin{array}{l} *3 + 3 = \quad *4 + 5 = \quad *5 + 3 = \quad *2 + 3 = \\ 3 \cdot 3 = \quad 4 \cdot 5 = \quad 5 \cdot 3 = \quad 2 \cdot 3 = \end{array}$$



$$4 + 4 + 4 + 4 + 4 =$$

$$5 \cdot 4 =$$

Narysuj 3 razy po 4 pisanki (podobne do pi-
sanek na rysunku). Podpisz $3 \cdot 4 = \square$

Narysuj 4 razy po 4 pisanki. Podpisz $4 \cdot 4 = \square$

$$3 \cdot 4 = \quad 2 \cdot 5 = \quad 3 \cdot 3 = \quad 4 \cdot 2 =$$

$$4 \cdot 4 = \quad 2 \cdot 3 = \quad 3 \cdot 4 = \quad 4 \cdot 5 =$$

$$5 \cdot 4 = \quad 2 \cdot 4 = \quad 3 \cdot 2 = \quad 4 \cdot 4 =$$

$$2 \cdot 4 = \quad 2 \cdot 2 = \quad 3 \cdot 5 = \quad 4 \cdot 3 =$$

Antoś ustawił wszystkich swoich ołowianych
żołnierzy czwórkami; miał ich 3 czwórki. Jaś usta-
wił swoich parami; miał 5 par. Kto miał więcej
żołnierzy?

Przy zabawie w ciuciubabkę w każdym rogu
pokoju stanęło po 4 dzieci a w środku 1 dziecko.
Ile dzieci bawiło się w ciuciubabkę?

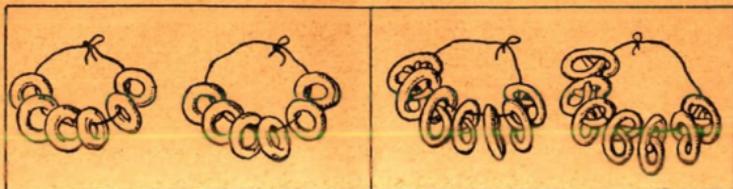
Chłopcy bawią się w konie. Są 4 pary koni
i 4 furmanów. Ilu chłopców bawi się w konie?

$$*5 + 4 = \quad *2 + 4 = \quad *4 + 4 = \quad *3 + 4 =$$

$$5 \cdot 4 = \quad 2 \cdot 4 = \quad 4 \cdot 4 = \quad 3 \cdot 4 =$$

$$3 \cdot 2 = \quad 2 \cdot 3 = \quad 4 \cdot 2 = \quad 3 \cdot 5 =$$

$$2 \cdot 5 = \quad 3 \cdot 4 = \quad 5 \cdot 4 = \quad 5 \cdot 2 =$$

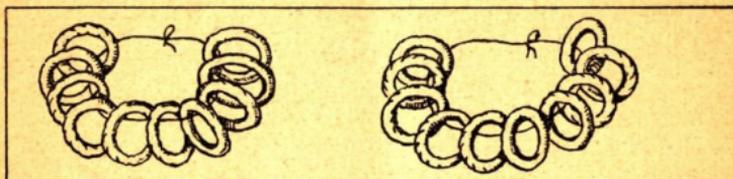


$$6 + 6 =$$

$$2 \cdot 6 =$$

$$7 + 7 =$$

$$2 \cdot 7 =$$



$$10 + 10 =$$

$$2 \cdot 10 =$$

$$8 + 8 =$$

$$2 \cdot 8 =$$

$$9 + 9 =$$

$$2 \cdot 9 =$$

$$6 + 6 + 6 =$$

$$3 \cdot 6 =$$

$$2 \cdot 5 =$$

$$2 \cdot 3 =$$

$$2 \cdot 2 =$$

$$*2 \cdot 4 =$$

$$*2 \cdot 7 =$$

$$2 \cdot 7 =$$

$$2 \cdot 6 =$$

$$2 \cdot 9 =$$

$$2 \cdot 8 =$$

$$3 \cdot 5 =$$

$$2 \cdot 10 =$$

$$2 \cdot 8 =$$

$$2 \cdot 10 =$$

$$4 \cdot 2 =$$

$$4 \cdot 3 =$$

$$3 \cdot 2 =$$

$$3 \cdot 5 =$$

$$5 \cdot 3 =$$

$$*3 \cdot 4 =$$

$$*2 \cdot 8 =$$

$$3 \cdot 3 =$$

$$3 \cdot 6 =$$

$$4 \cdot 3 =$$

$$4 \cdot 4 =$$

$$5 \cdot 4 =$$

$$4 \cdot 2 =$$

$$4 \cdot 5 =$$

$$5 \cdot 4 =$$

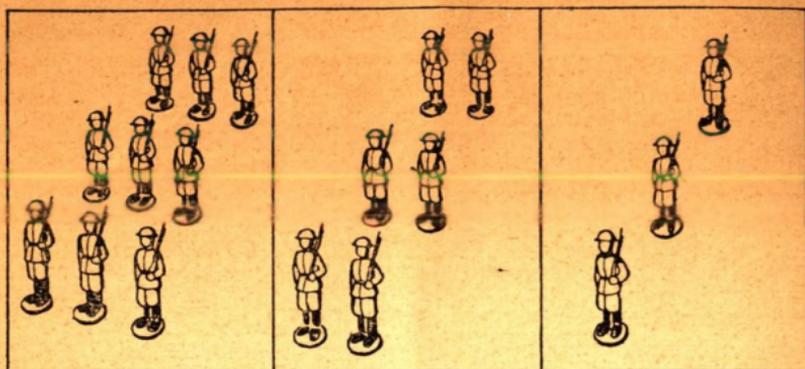
$$3 \cdot 6 =$$

$$3 \cdot 5 =$$

Przed domem były 2 ławki, na każdej siedziało po 6 osób. Ile osób siedziało przed domem?

Odjechały na wycieczkę 2 wozy. Na każdym siedziało po 9 dzieci. Ile dzieci odjechało?

Dzieci pływały po stawie łódkami. Na 2 łódkach siedziało po 8 dzieci, a na trzeciej 4 dzieci. Ile dzieci pływało łódkami?



$$3 \cdot 3 = 9$$

$$3 \cdot 2 = 6$$

$$3 \cdot 1 = 3$$



$$2 \cdot 1 =$$



$$4 \cdot 1 =$$

$$4 \cdot 3 =$$

$$5 \cdot 2 =$$

$$*4 \cdot 1 =$$

$$*2 \cdot 1 =$$

$$4 \cdot 1 =$$

$$5 \cdot 1 =$$

$$2 \cdot 1 =$$

$$3 \cdot 6 =$$

$$2 \cdot 4 =$$

$$3 \cdot 5 =$$

$$5 \cdot 1 =$$

$$4 \cdot 1 =$$

$$2 \cdot 1 =$$

$$3 \cdot 1 =$$

$$3 \cdot 1 =$$

$$2 \cdot 7 =$$

$$3 \cdot 2 =$$

$$4 \cdot 2 =$$

$$2 \cdot 5 =$$

$$3 \cdot 4 =$$

$$5 \cdot 3 =$$

$$5 \cdot 4 =$$

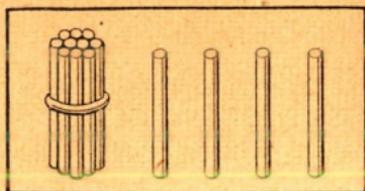
$$4 \cdot 3 =$$

$$4 \cdot 5 =$$

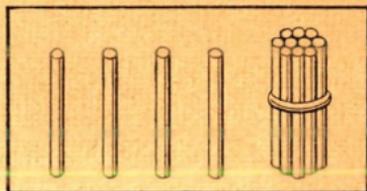
Józio pomagał matce przy sadzeniu ziemniaków. 3 razy schodził do piwnicy i za każdym razem przynosił 1 kosz ziemniaków. Ile koszy ziemniaków przyniósł Józio z piwnicy?

Zosia miała 20 groszy. Kupiła 5 cukierków po 1 groszu. Ile groszy jej zostało?

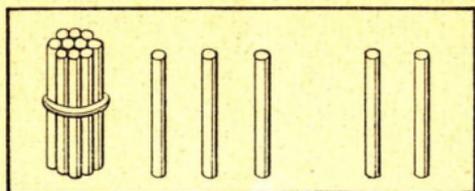
Staś miał 20 groszy. Kupił 2 ołówki po 8 groszy. Ile groszy mu zostało?



$$10 + 4 = 14$$



$$4 + 10 = 14$$



$$13 + 2 = 15$$

$$2 + 13 = 15$$

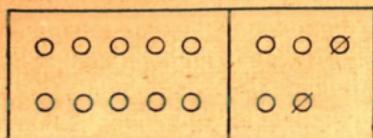
$10 + 2 =$	$10 + 3 =$	$10 + 4 =$	$18 + 2 =$
$2 + 10 =$	$3 + 10 =$	$11 + 4 =$	$2 + 18 =$
$10 + 6 =$	$10 + 5 =$	$15 + 1 =$	$5 + 12 =$
$6 + 10 =$	$5 + 10 =$	$1 + 15 =$	$12 + 5 =$

$*4 + 14 =$	$*7 + 10 =$	$*2 + 12 =$	$*8 + \square = 20$
$6 + 12 =$	$4 + 16 =$	$5 + 15 =$	$3 + \square = 20$
$7 + 13 =$	$1 + 19 =$	$6 + 11 =$	$6 + \square = 20$
$8 + 11 =$	$5 + 10 =$	$8 + 10 =$	$1 + \square = 20$

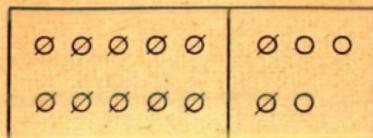
Wojtuś miał 4 monety po 2 grosze. Ojciec dał mu 12 groszy. Ile teraz groszy ma Wojtuś?

Jagusia miała 7 groszy. Mama dała jej 2 monety po 5 groszy. Ile groszy ma Jagusia?

Waluś kupił gumkę za 5 groszy i 2 ołówki po 7 groszy. Ile zapłacił razem?



$$15 - 2 = 13$$



$$15 - 12 = 3$$

$16 - 5 =$	$18 - 4 =$	$19 - 6 =$	$17 - 2 =$
$16 - 15 =$	$18 - 14 =$	$19 - 16 =$	$17 - 12 =$
$18 - 17 =$	$18 - 12 =$	$19 - 18 =$	$17 - 16 =$
$14 - 13 =$	$18 - 17 =$	$19 - 12 =$	$17 - 13 =$

$15 - 11 =$	$14 - 13 =$	$*17 - 11 =$	$*18 - 16 =$
$19 - 18 =$	$12 - 10 =$	$19 - 15 =$	$16 - 12 =$
$16 - 14 =$	$18 - 15 =$	$16 - 14 =$	$12 - 11 =$

$20 - 19 =$	$20 - 15 =$	$*20 - 11 =$
$20 - 18 =$	$20 - 12 =$	$20 - 13 =$
$20 - 17 =$	$20 - 14 =$	$20 - 16 =$

Na zagonku zakwitło 20 bratków. Hela zerwała 12 bratków. Ile bratków zostało na zagonku?

W koszyku było 20 śliwek. Staś, Franek i Mania zjedli po 6 śliwek. Ile śliwek zostało w koszyku?

Basia miała 20 groszy. Kupiła 4 cukierki po 4 grosze. Ile groszy jej zostało?

$*15 + 4 =$	$*19 - 7 =$	$*11 + 9 =$	$*17 - 11 =$
$18 - 17 =$	$5 + 12 =$	$20 - 18 =$	$8 + 12 =$
$3 \cdot 5 =$	$4 \cdot 4 =$	$2 \cdot 8 =$	$4 \cdot 2 =$
$2 \cdot 7 =$	$3 \cdot 6 =$	$3 \cdot 4 =$	$2 \cdot 9 =$

Zagadki.

Idzie 2 oficerów. Przed każdym i za każdym oficerem idzie 4 żołnierzy. Ilu jest żołnierzy? (Zróbmy rysunek: czerwone kreski to oficerowie, czarne to żołnierze.)

Dzieci bawią się w kółko. Jest 5 dziewczynek, każda trzyma za rękę 2 chłopców, a każdy chłopiec trzyma za rękę 2 dziewczynki. Ile jest dzieci w kółku?

Zgadnij, smyku,
ile pisanek w koszyku:
7 czerwonych,
8 zielonych,
2 w bure listeczki,
3 w żółte kwiateczki.

Kaczka — kwaczka, cała biała,
16 kaczątek miała.
Siedmioro pływa po wodzie,
sześcioro siedzi w zagrodzie.
Ile brakuje — zliczyć nie może.
Kto się zlituje, niech jej pomoże.

Układ materiału.

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U w a g i.

Rysunki na str. 3—9 mają na celu zwrócenie uwagi na kilka zasadniczych pojęć dotyczących położenia i ruchu, jak również porównywania i porządkowania zbiorów. Wielu ćwiczeń potrzeba, by dziecko nauczyło się wyodrębnić te pojęcia w codziennym swym doświadczeniu, by oswoiło się z nimi i przywykło poprawnie je nazywać. Ćwiczenia te muszą być bardzo różnorodne; wplatać je trzeba w gry i zabawy dziecka, w lekcje rysunków, w zajęcia praktyczne itp. Niektóre ćwiczenia można przeznaczyć na ciche lekcje arytmetyki. Można np. kazać dziecku wybrać równe paski papieru spośród kilku pasków różnej długości; można kazać układać paski według wielkości — od najkrótszych do najdłuższych; układać lub nalepiać krążki czerwone pod niebieskimi itp.

Tego rodzaju ćwiczenia są wtedy najskuteczniejsze, gdy służą do jakiegoś celu zrozumiałego dla dziecka, gdy np. dziecko układając w pewnym porządku paski czy krążki barwne tworzy szlak do przybrania zeszytu, albo gdy wybiera równe patyczki do ogrodzenia zagonka itp.

Poczynając od str. 10 uczeń zapoznaje się z odwzorowaniem zbioru i z liczbą nie posługując się jeszcze cyframi. Na zajęciach praktycznych mogą dzieci przygotować karteczki, które następnie na lekcji arytmetyki układać będą na pustych kratkach (str. 10—12) rysując na nich odpowiednią ilość kresek lub kropek. Przeważną część tych ćwiczeń stanowić może temat lekcji cichej.

Analogiczne ćwiczenia mamy w następnym dziale, gdy dzieci układają w pustych kratkach kartki z wypisanymi na nich cyframi (str. 15—16, str. 21—22), albo też gdy mając tabelki z wydrukowanymi cyframi układają w pustych przedziałach odpowiednią ilość liczmanów (słomek, patyczków itp.), jak na str. 14, 19 i 20.

Na lekcje ciche nadają się: przerysowywanie kratek konkretyzujących liczby (str. 30) lub ilustrujących dodawanie (str. 29), jak również wstawianie liczb w puste kratki na str. 42.

Ćwiczenia rachunkowe nadające się na lekcje ciche oznaczono gwiazdką *.

