

Mathematics

Using the inverse operation to find missing numbers



OAK
NATIONAL
ACADEMY

Lesson agenda

Using arrays to represent the inverse

Relate arrays and fact families

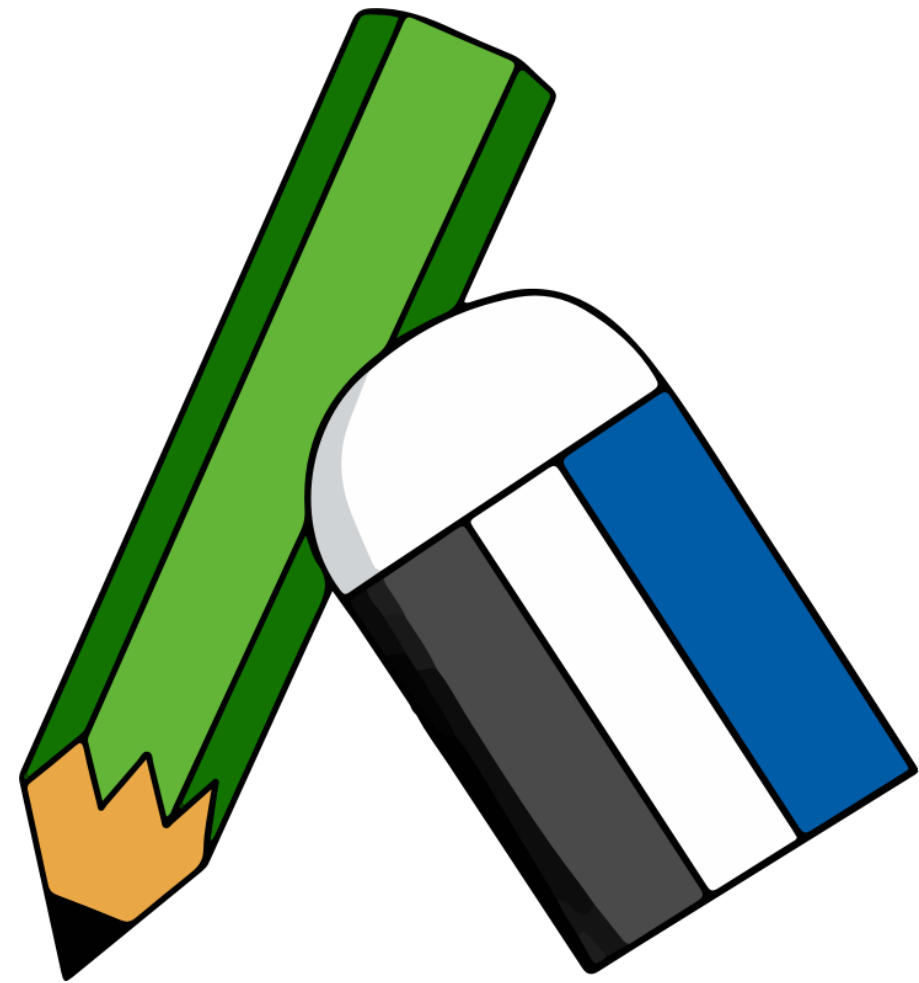
Use known facts to find missing numbers

Independent work and Exit quiz



You will need...

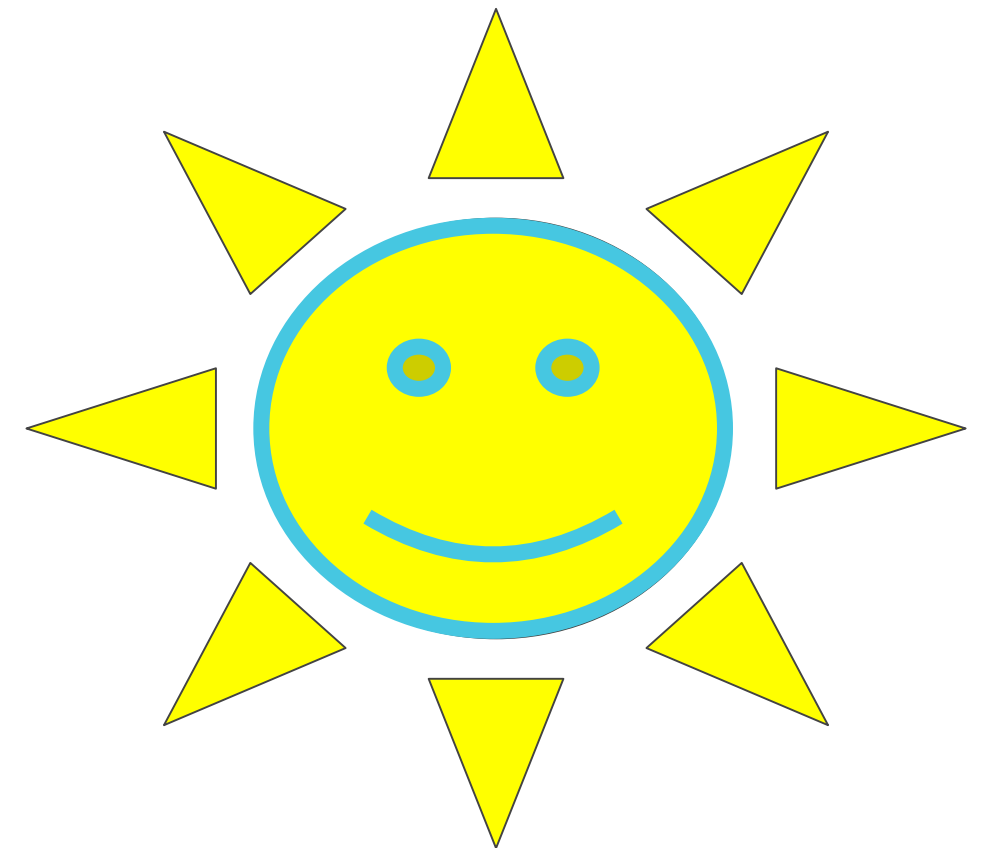
Pencil or pen



Paper

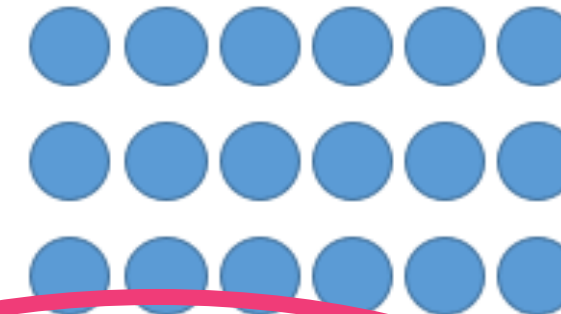
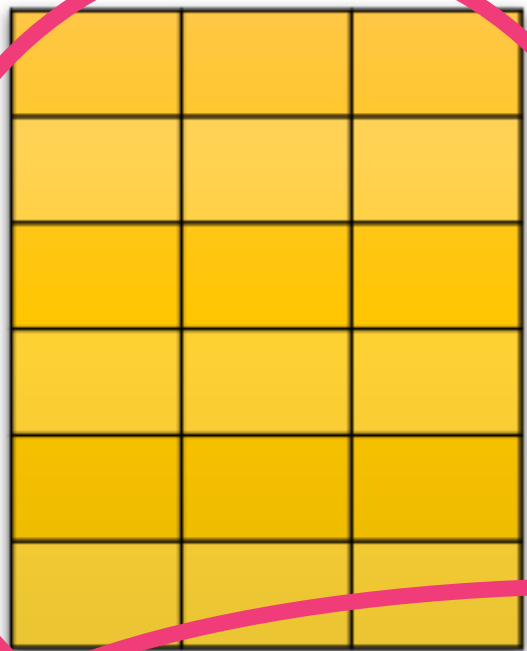


Can do attitude!



Warm-up

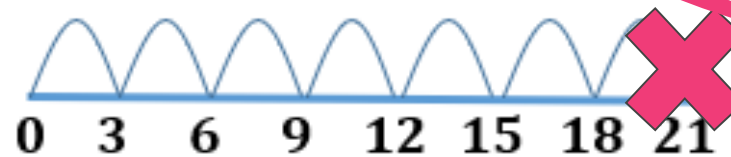
Which of these represent 6×3 and which do not?



$$6 + \times 3$$

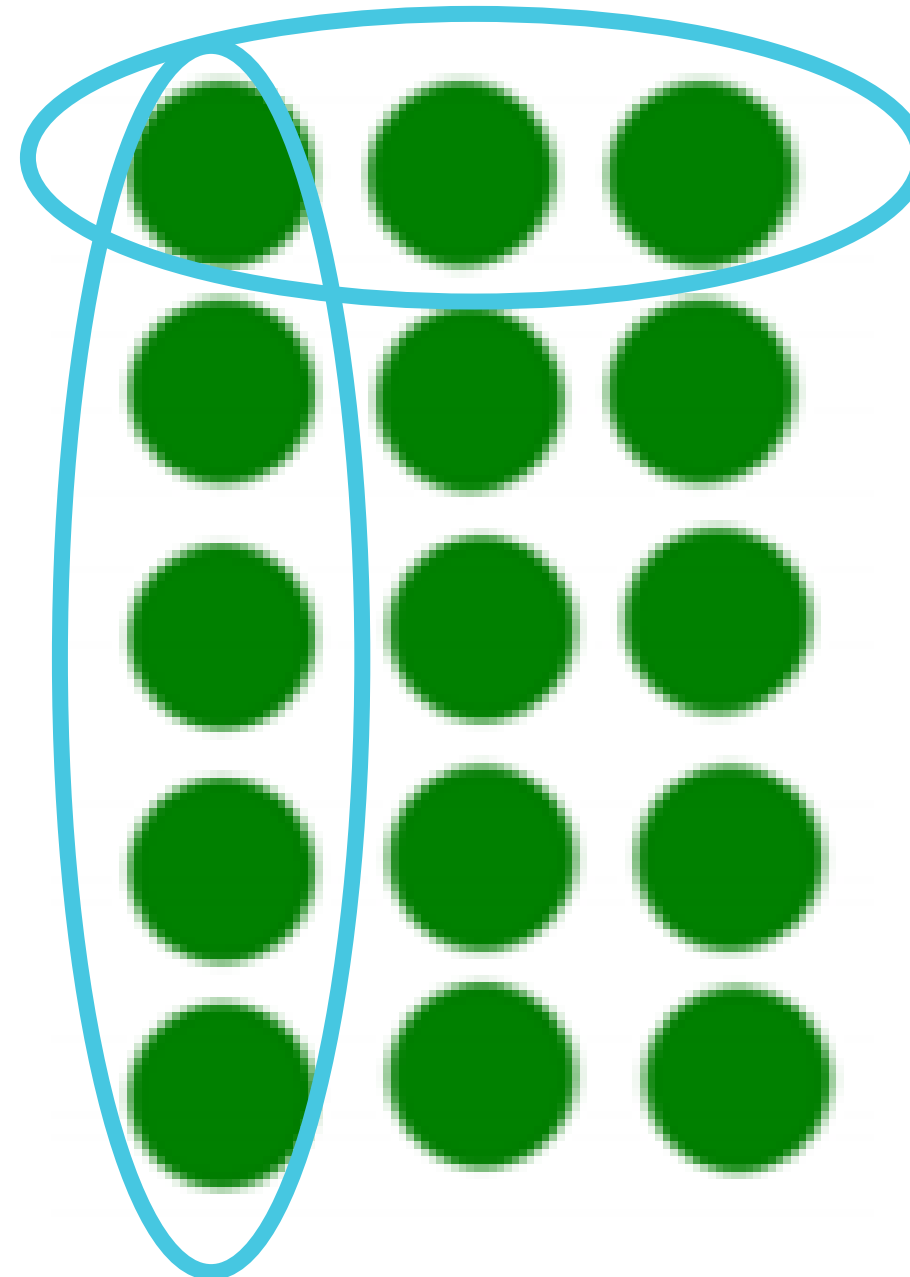


$$3 + 3 + 3 + 3 + 3 + 3$$

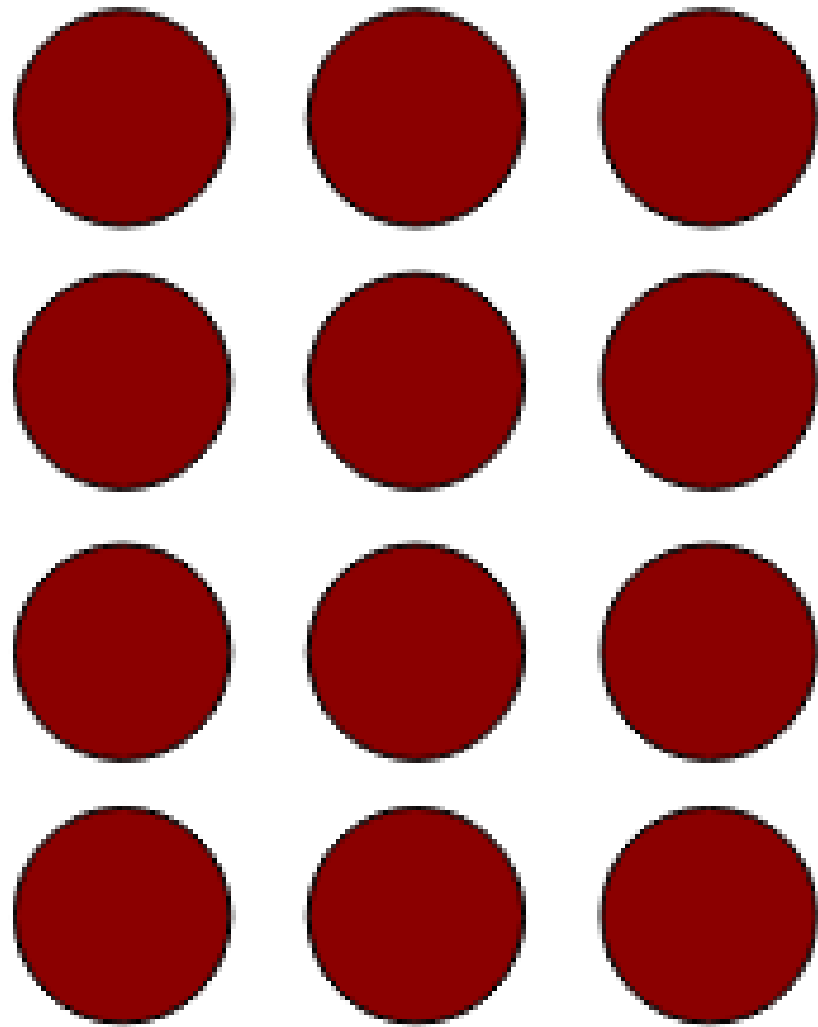


Arrays

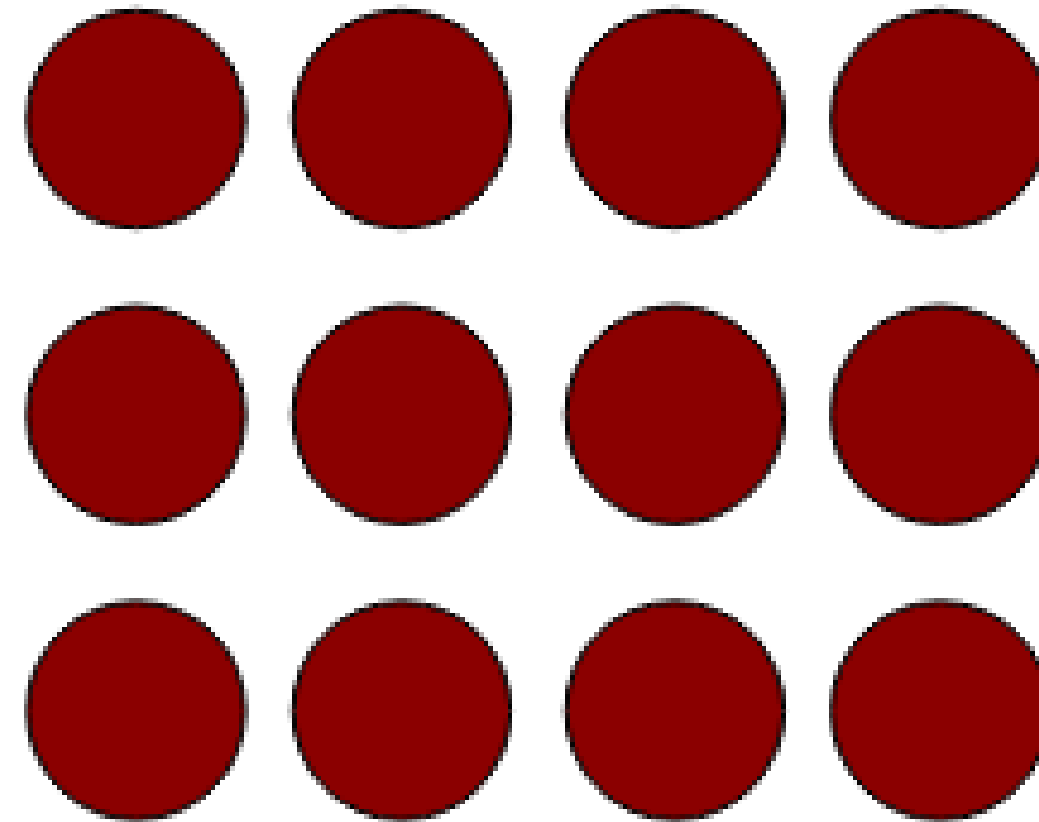
$$5 \times 3 = 15$$



Arrays (multiplication)



$$4 \times 3 = \square$$

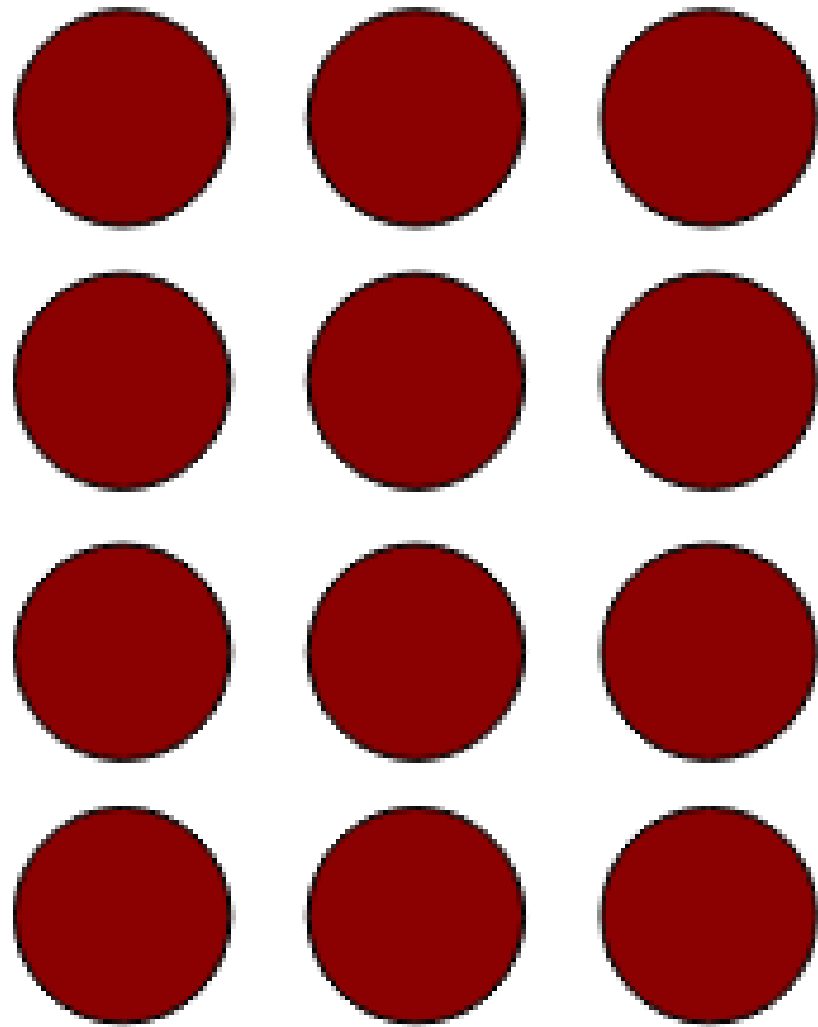


$$3 \times 4 = \square$$

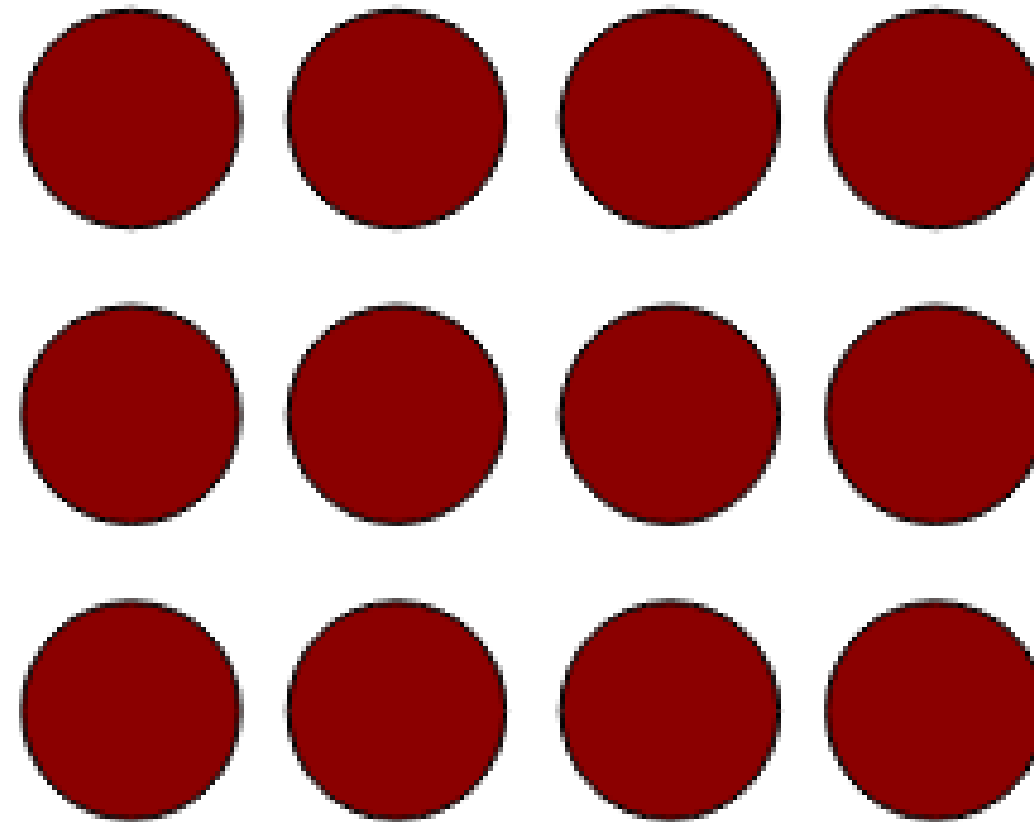


Arrays

Division



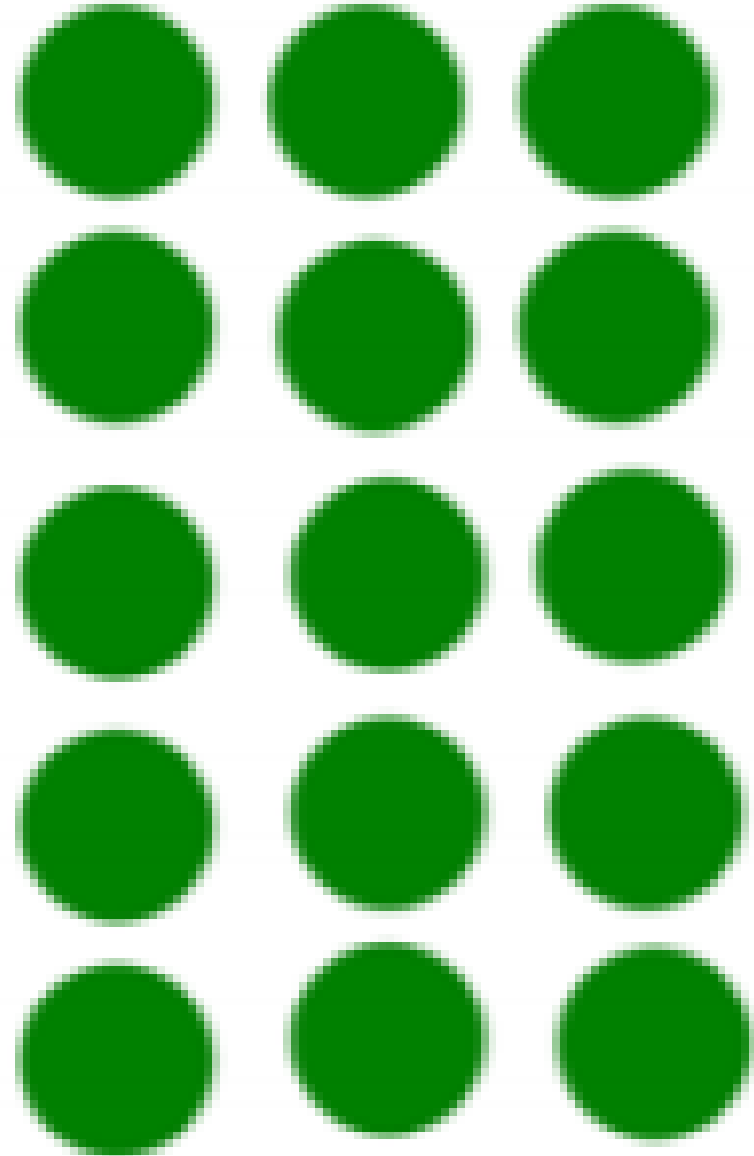
$$12 \div 3 = \square$$



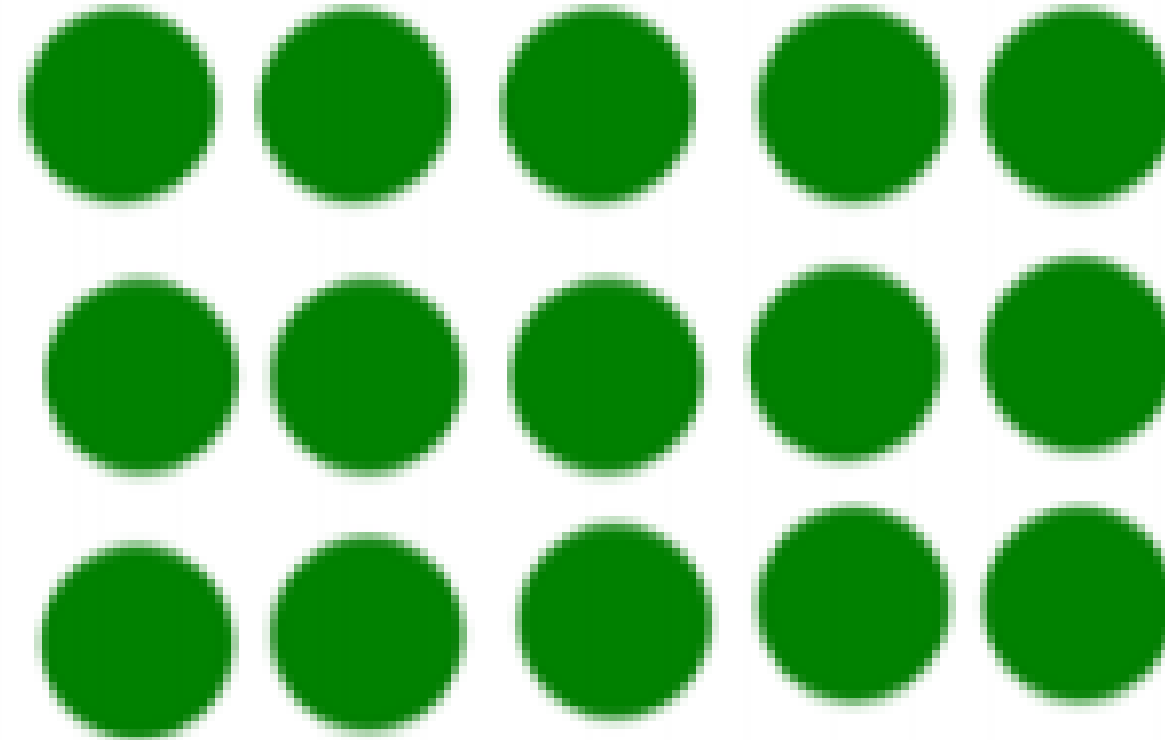
$$12 \div 4 = \square$$



Arrays Your turn;



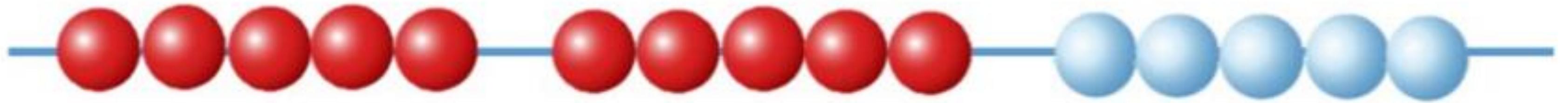
$$4 \times 3 = \square$$
$$12 \div 3 = \square$$



$$3 \times 4 = \square$$
$$12 \div 4 = \square$$



Write 2 multiplication and 2 division facts



$$\boxed{5} \times 3 = \boxed{15}$$

$$\boxed{15} \div 3 = \boxed{5}$$

$$3 \times \boxed{5} = \boxed{15}$$

$$\boxed{15} \div \boxed{5} = 3$$



Write 2 multiplication and 2 division facts

You turn;



$$\boxed{5} \times 3 = \boxed{15}$$

$$\boxed{15} \div 3 = \boxed{5}$$

$$3 \times \boxed{5} = \boxed{15}$$

$$\boxed{15} \div \boxed{5} = 3$$

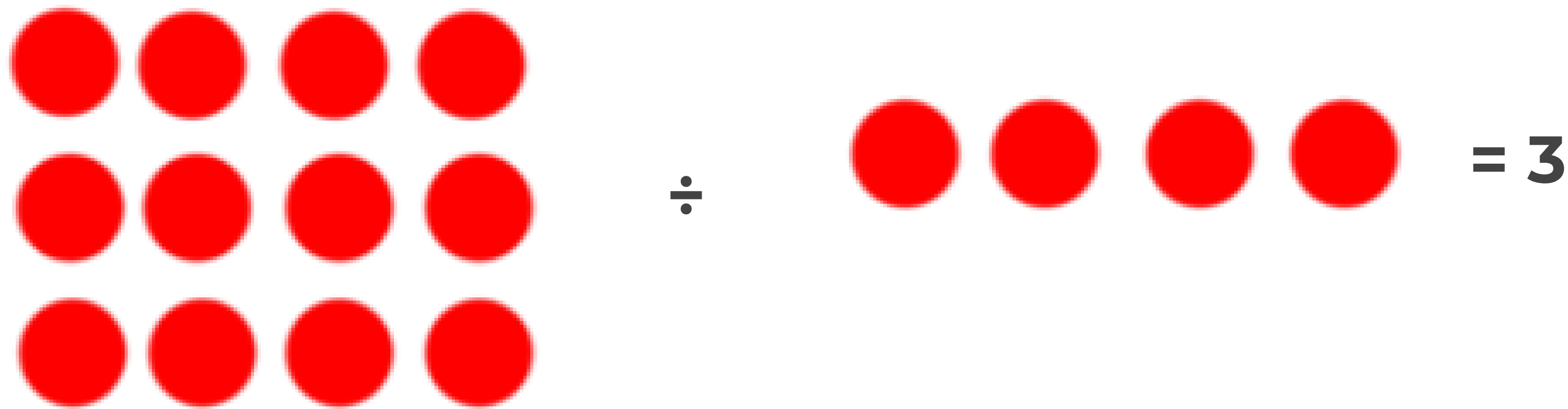


Which symbol is missing here? (x or ÷)

3 x ● ● ● ● = ● ● ● ●
● ● ● ●
● ● ● ●

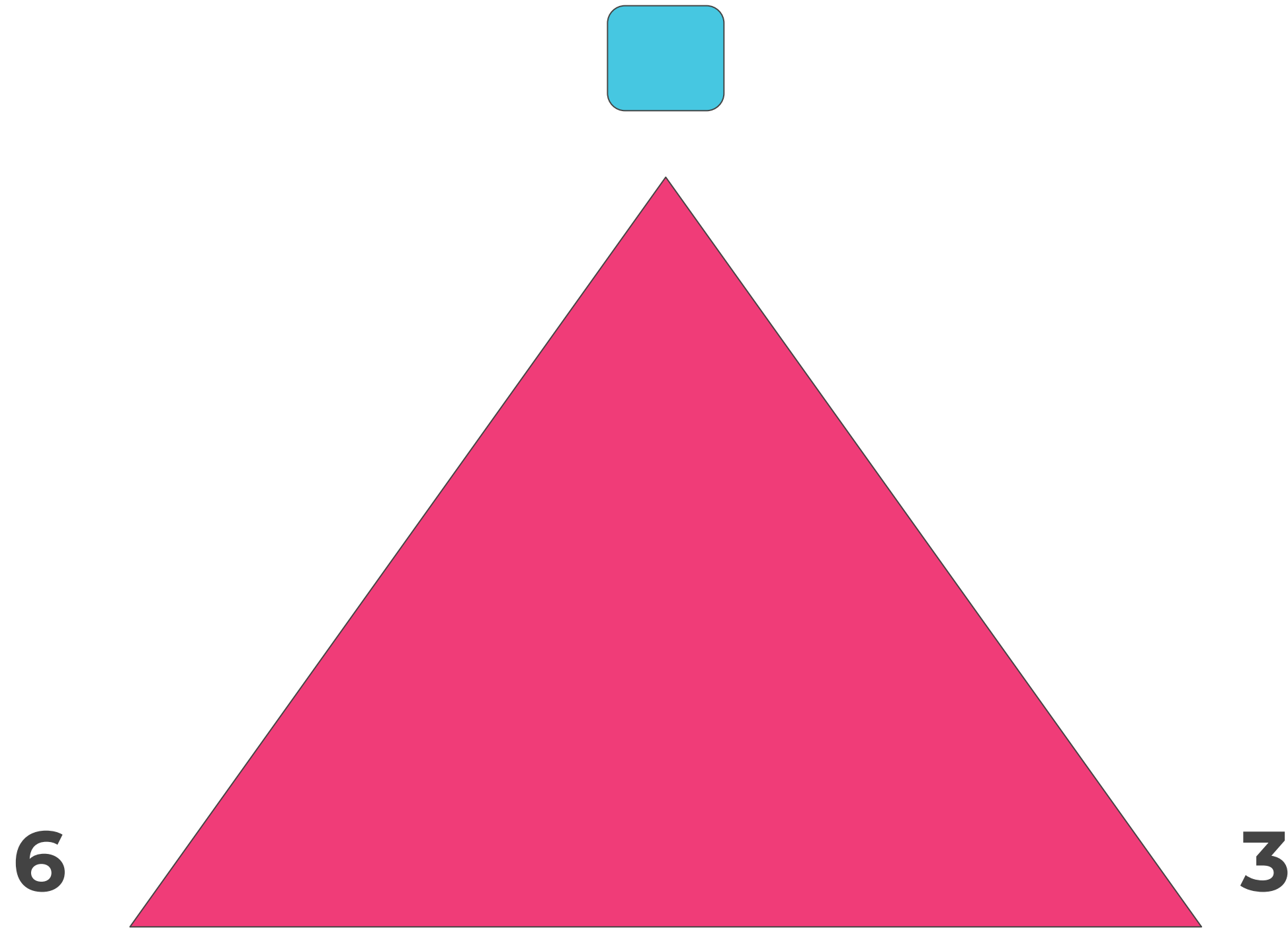


Which symbol is missing here? (x or ÷)

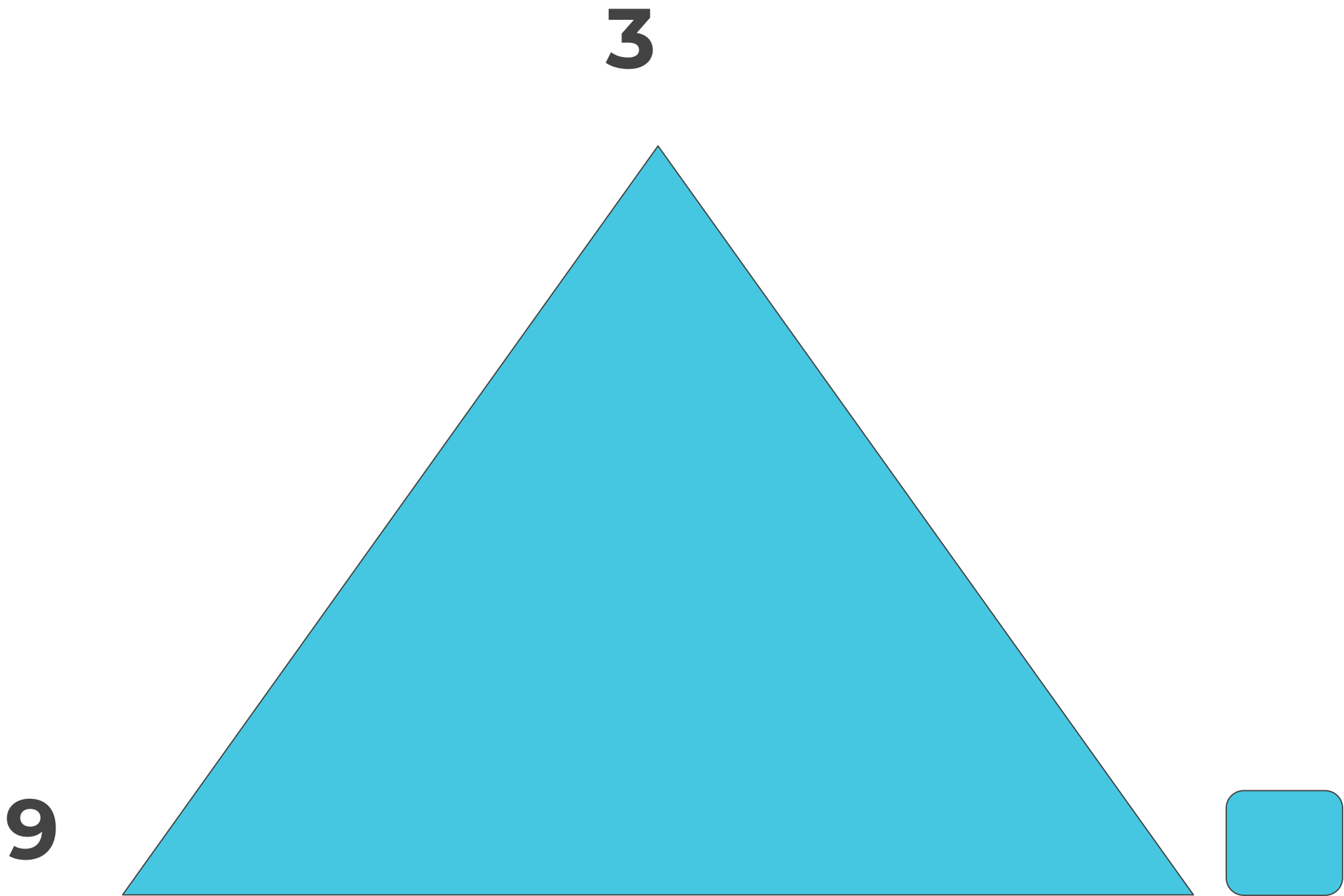

$$\begin{array}{cccc} \bullet & \bullet & \bullet & \bullet \\ \bullet & \bullet & \bullet & \bullet \\ \bullet & \bullet & \bullet & \bullet \end{array} \div \begin{array}{cccc} \bullet & \bullet & \bullet & \bullet \end{array} = 3$$



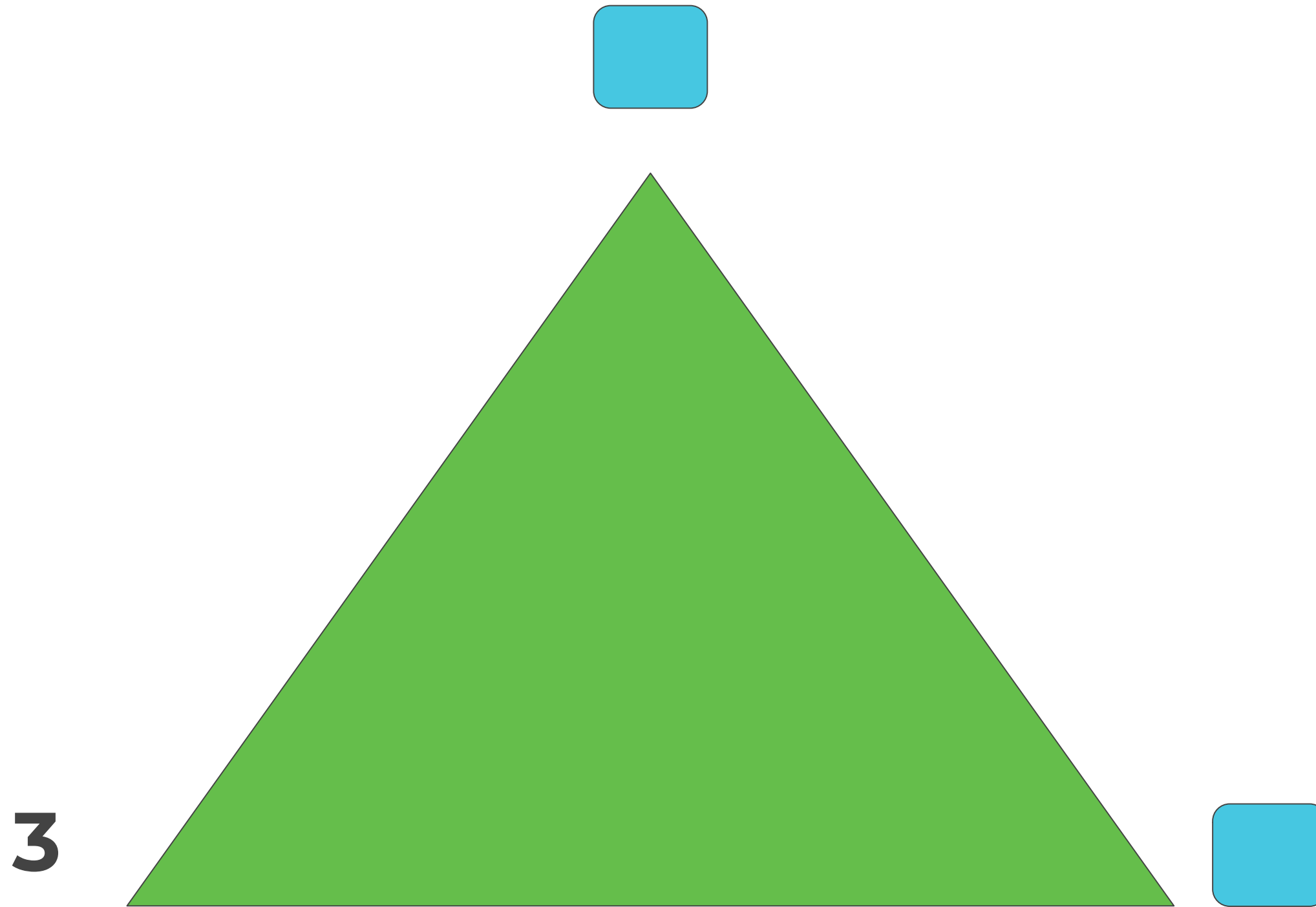
'Fact families'



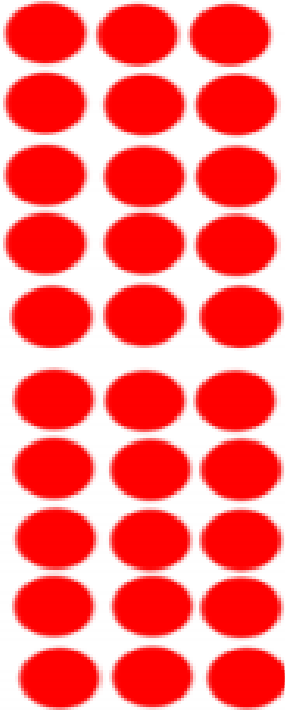
‘Fact families’



'Fact families'



Part A add x or ÷

1) **10** $\times$  = 

2)  $\div$ **3** = 

3) $27 \div \boxed{9} = 3$

4) $\boxed{10} \times 3 = 30$

5) $3 \times \boxed{11} = 33$

6) $\boxed{21} \div 3 = 7$



Part B

Complete these
fact families

