

# Fractions as operators



- 1 a) Work out  $\frac{1}{3} \times 6$

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$$\frac{1}{3} \times 6 = \frac{\boxed{\phantom{00}}}{3} = \boxed{\phantom{00}}$$

- b) Work out  $\frac{1}{3}$  of 6

|   |  |  |
|---|--|--|
| 6 |  |  |
|   |  |  |

$$\frac{1}{3} \text{ of } 6 = \boxed{\phantom{00}} \div \boxed{\phantom{00}} = \boxed{\phantom{00}}$$

- c) What is the same about these calculations?

- d) Work out  $\frac{2}{3}$  of 6

$$\frac{2}{3} \text{ of } 6 = \boxed{\phantom{00}} \div \boxed{\phantom{00}} \times 2 = \boxed{\phantom{00}}$$

- e) Work out  $\frac{2}{3} \times 6$

|  |  |  |
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|  |  |  |
|  |  |  |

$$\frac{2}{3} \times 6 = \boxed{\phantom{00}} = \boxed{\phantom{00}}$$

- 2 Complete the calculations.

a)  $\frac{1}{3} \times 12 = \boxed{\phantom{00}}$

$\frac{1}{3}$  of 12 =  $\boxed{\phantom{00}}$

c)  $12 \times \frac{2}{3} = \boxed{\phantom{00}}$

$\frac{2}{3}$  of 12 =  $\boxed{\phantom{00}}$

b)  $12 \times \frac{1}{4} = \boxed{\phantom{00}}$

$\frac{1}{4}$  of 12 =  $\boxed{\phantom{00}}$

d)  $\frac{3}{4} \times 12 = \boxed{\phantom{00}}$

$\frac{3}{4}$  of 12 =  $\boxed{\phantom{00}}$

What do you notice?

- 3 Tick the calculation in each pair that is easier to work out.

a)  $\frac{1}{5} \times 7$

$\frac{1}{5}$  of 7

b)  $\frac{1}{5} \times 10$

$\frac{1}{5}$  of 10

c)  $\frac{3}{5} \times 10$

$\frac{3}{5}$  of 10

d)  $\frac{3}{10} \times 5$

$\frac{3}{10}$  of 5

Compare answers with a partner.

4 Complete the calculations.

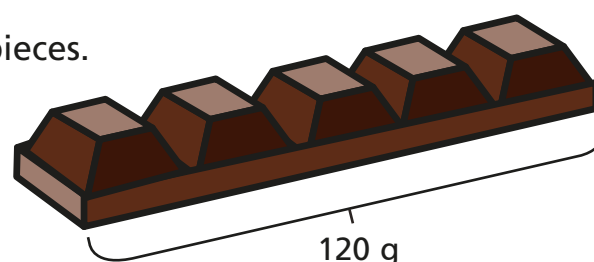
a)  $\frac{5}{6} \times 12 = \frac{\boxed{\phantom{00}}}{\boxed{\phantom{00}}}$  of 12 =  $\boxed{\phantom{00}}$

b)  $\frac{3}{4} \times 24 = \frac{\boxed{\phantom{00}}}{\boxed{\phantom{00}}}$  of 24 =  $\boxed{\phantom{00}}$

c)  $\frac{2}{7} \times \boxed{\phantom{00}} = \frac{\boxed{\phantom{00}}}{\boxed{\phantom{00}}}$  of 28 =  $\boxed{\phantom{00}}$

d)  $\frac{\boxed{\phantom{00}}}{\boxed{\phantom{00}}} \times 45 = \frac{4}{5}$  of  $\boxed{\phantom{00}}$  =  $\boxed{\phantom{00}}$

5 A bar of chocolate has 5 equal pieces.  
The whole bar weighs 120g.



How much do three pieces weigh?

a) Write two calculations that will give the answer to the problem.

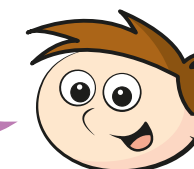
b) Work out the answer.

Three pieces of chocolate weigh

6 Teddy and Annie are working out  $\frac{3}{7} \times 42$

a)

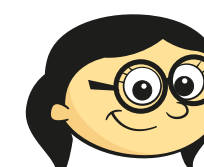
I will multiply 42 by  $\frac{3}{7}$



Teddy

Use Teddy's method to work out the calculation.

b)



Annie

I will find  $\frac{3}{7}$  of 42

Use Annie's method to work out the calculation.

c) Whose method do you prefer? \_\_\_\_\_

Explain why.

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d) When is it easier to find fractions of amounts rather than multiply fractions?

Give some examples for each method.

