

Multiply unit fractions by an integer



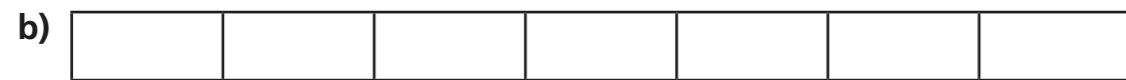
1 Complete the calculations.

Use the bar models to help you.



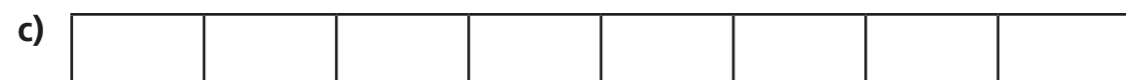
$$\frac{1}{5} + \frac{1}{5} + \frac{1}{5} = \square$$

$$3 \times \frac{1}{5} = \square$$



$$\frac{1}{7} + \frac{1}{7} + \frac{1}{7} + \frac{1}{7} = \square$$

$$4 \times \frac{1}{7} = \square$$



$$\frac{1}{8} + \frac{1}{8} + \frac{1}{8} + \frac{1}{8} + \frac{1}{8} = \square$$

$$5 \times \frac{1}{8} = \square$$



$$\frac{1}{10} + \frac{1}{10} + \frac{1}{10} + \frac{1}{10} + \frac{1}{10} + \frac{1}{10} + \frac{1}{10} = \square$$

$$7 \times \frac{1}{10} = \square$$

2 Complete the multiplications.

a) $3 \times \frac{1}{8} = \square$

e) $\frac{1}{5} \times 4 = \square$

b) $3 \times \frac{1}{10} = \square$

f) $\frac{1}{9} \times 8 = \square$

c) $\frac{1}{8} \times 5 = \square$

g) $8 \times \frac{1}{11} = \square$

d) $9 \times \frac{1}{10} = \square$

h) $\frac{1}{11} \times 10 = \square$

3 Match the addition to the equivalent multiplication.

$$\frac{1}{3} + \frac{1}{3}$$

$$2 \times \frac{1}{5}$$

$$\frac{1}{5} + \frac{1}{5} + \frac{1}{5}$$

$$\frac{1}{4} \times 3$$

$$\frac{1}{5} + \frac{1}{5}$$

$$3 \times \frac{1}{5}$$

$$\frac{1}{4} + \frac{1}{4} + \frac{1}{4}$$

$$2 \times \frac{1}{3}$$

4 A pizza is cut into sixths.

Jack eats five of the slices.

Write a multiplication to represent this.

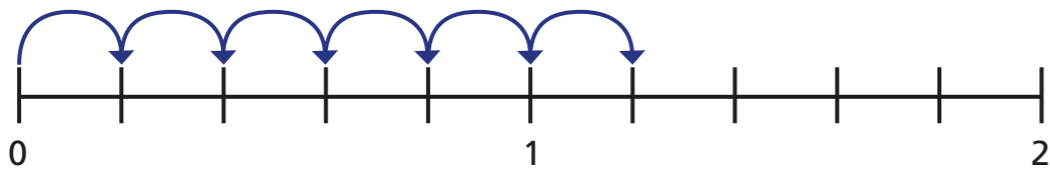
$$\square \times \square = \square$$

5 Complete the multiplications.

Use the number lines to help you.

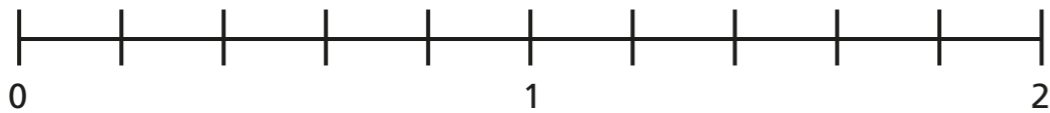
Give each answer as an improper fraction and as a mixed number.

a)



$$6 \times \frac{1}{5} = \square = \square$$

b)



$$9 \times \frac{1}{5} = \square = \square$$

6 Complete the multiplications.

$$\text{a) } 11 \times \frac{1}{10} = \square = \square$$

$$\text{b) } 11 \times \frac{1}{9} = \square = \square$$

$$\text{c) } \frac{1}{8} \times 11 = \square = \square$$

$$\text{d) } 11 \times \frac{1}{7} = \square = \square$$

$$\text{e) } 11 \times \frac{1}{6} = \square = \square$$

What do you notice?

Does this pattern continue?

7 Complete the calculations.

$$\text{a) } \square \times \frac{1}{3} = \frac{2}{3}$$

$$\text{e) } \frac{1}{8} \times \square = 1\frac{3}{8}$$

$$\text{b) } \square \times \frac{1}{3} = 1$$

$$\text{f) } \square \times \frac{1}{2} = 3\frac{1}{2}$$

$$\text{c) } \square \times \frac{1}{7} = 1$$

$$\text{g) } \square \times \frac{1}{3} = 3\frac{1}{3}$$

$$\text{d) } \frac{1}{7} \times \square = 1\frac{3}{7}$$

$$\text{h) } \frac{1}{4} \times \square = 3\frac{1}{4}$$



Multiply non-unit fractions by an integer



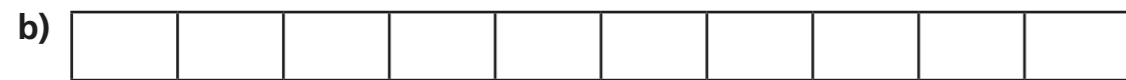
1 Complete the calculations.

Use the bar models to help you.



$$\frac{2}{7} + \frac{2}{7} + \frac{2}{7} = \square$$

$$3 \times \frac{2}{7} = \square$$



$$\frac{3}{10} + \frac{3}{10} + \frac{3}{10} = \square$$

$$3 \times \frac{3}{10} = \square$$



$$\frac{2}{9} + \frac{2}{9} + \frac{2}{9} + \frac{2}{9} = \square$$

$$4 \times \frac{2}{9} = \square$$



$$\frac{4}{9} + \frac{4}{9} = \square$$

$$2 \times \frac{4}{9} = \square$$

What do you notice about parts c) and d)? Talk to a partner.

2 Complete the multiplications.

a) $2 \times \frac{3}{7} = \square$

d) $5 \times \frac{2}{11} = \square$

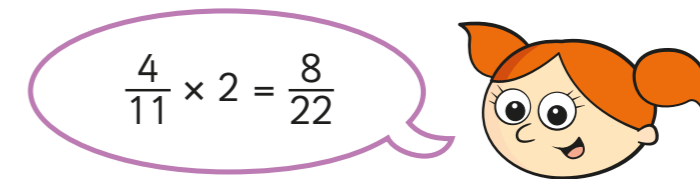
b) $3 \times \frac{3}{11} = \square$

e) $\frac{2}{15} \times 7 = \square$

c) $\frac{2}{11} \times 4 = \square$

f) $\frac{7}{15} \times 2 = \square$

3

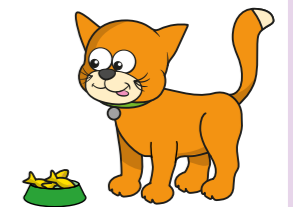


Explain the mistake that Alex has made.

4

A cat eats $\frac{2}{15}$ of a bag of biscuits a day.

What fraction of the bag does the cat eat in 4 days?



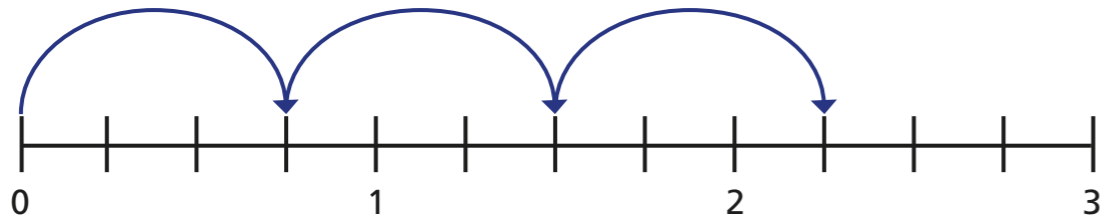
The cat eats \square of the bag in 4 days.

5 Complete the multiplications.

Use the number lines to help you.

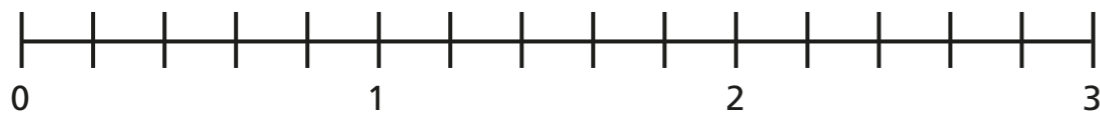
Give each answer as an improper fraction and as a mixed number.

a)



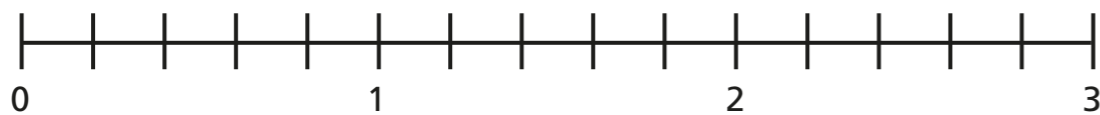
$$3 \times \frac{3}{4} = \boxed{} = \boxed{}$$

b)



$$4 \times \frac{3}{5} = \boxed{} = \boxed{}$$

c)



$$3 \times \frac{4}{5} = \boxed{} = \boxed{}$$



6 Complete the multiplications.

a) $5 \times \frac{2}{3} = \boxed{} = \boxed{}$

b) $4 \times \frac{4}{5} = \boxed{} = \boxed{}$

c) $\frac{2}{7} \times 11 = \boxed{} = \boxed{}$

d) $4 \times \frac{7}{9} = \boxed{} = \boxed{}$

e) $17 \times \frac{2}{11} = \boxed{} = \boxed{}$

f) Describe the pattern you can see in the answers.

g) What could the next multiplication in the pattern be?

Write two possible options.

7 Here are some digit cards.



Use the digit cards to complete the multiplication.

$$\boxed{} \times \frac{\boxed{}}{8} = \frac{15}{8} = \boxed{} \frac{\boxed{}}{8}$$

