Multiply non-unit fractions by an integer
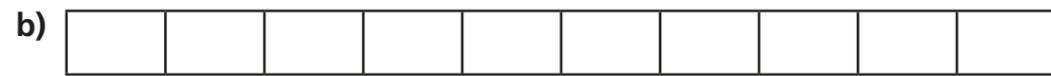
1 Complete the calculations.

Use the bar models to help you.

a)

[bar model with 7 sections]

$\frac{2}{7} + \frac{2}{7} + \frac{2}{7} =$ ☐ $3 \times \frac{2}{7} =$ ☐

b)

[bar model with 10 sections]

$\frac{3}{10} + \frac{3}{10} + \frac{3}{10} =$ ☐ $3 \times \frac{3}{10} =$ ☐

c)

[bar model with 9 sections]

$\frac{2}{9} + \frac{2}{9} + \frac{2}{9} + \frac{2}{9} =$ ☐ $4 \times \frac{2}{9} =$ ☐

d)

[bar model with 9 sections]
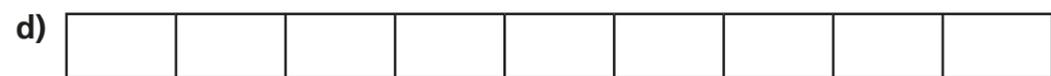
$\frac{4}{9} + \frac{4}{9} =$ ☐ $2 \times \frac{4}{9} =$ ☐

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

2 Complete the multiplications.

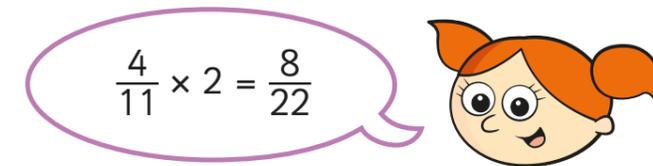**a)** $2 \times \frac{3}{7} =$ ☐   **d)** $5 \times \frac{2}{11} =$ ☐

b) $3 \times \frac{3}{11} =$ ☐   **e)** $\frac{2}{15} \times 7 =$ ☐

c) $\frac{2}{11} \times 4 =$ ☐   **f)** $\frac{7}{15} \times 2 =$ ☐

3

$\frac{4}{11} \times 2 = \frac{8}{22}$

Explain the mistake that Alex has made.

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_____

4 A cat eats $\frac{2}{15}$ of a bag of biscuits a day.
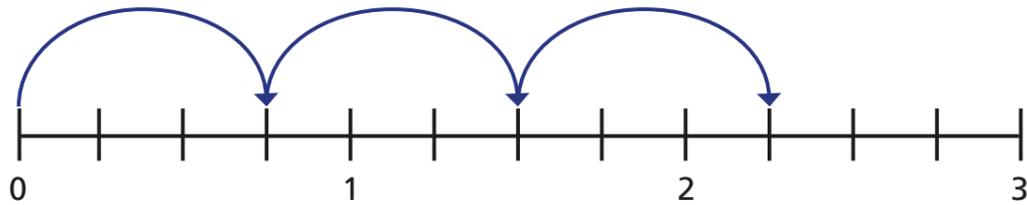
What fraction of the bag does the cat eat in 4 days?

The cat eats ☐ of the bag in 4 days.

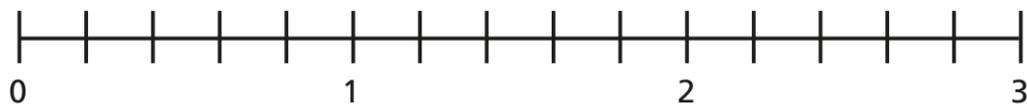**5** Complete the multiplications.

Use the number lines to help you.

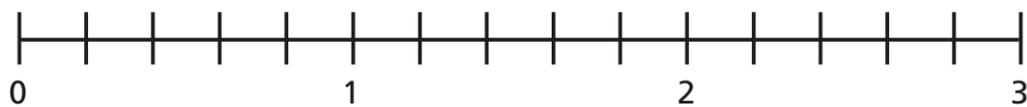Give each answer as an improper fraction and as a mixed number.

a)

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

b)

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

c)

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

6 Complete the multiplications.

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

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

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

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

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

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.

$\boxed{1} \quad \boxed{3} \quad \boxed{5} \quad \boxed{7}$

Use the digit cards to complete the multiplication.

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