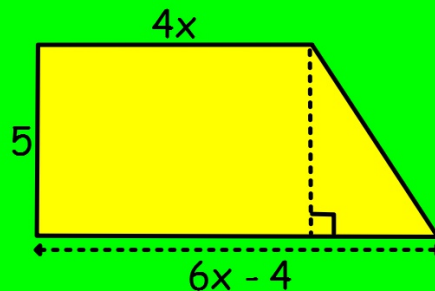


## Starter

1. Convert the following measurements
- a. 6.78 m to cm      b. 2070 mm to m      c. 0.067 L to mL

2. Factorise, fully
- a.  $4xy + 8x^2$       b.  $24a^3b + 18a^2b^3 - 6a^2b$

3. a. Find an expression for the area of this shape.
- b. If the area is  $115 \text{ cm}^2$ , find  $x$ .



4. Sally is a consultant at Hairmyres who has been on call for  $4\frac{3}{8}$  days. During that time she has spent  $1\frac{1}{10}$  days asleep. How long has she been awake?

## Starter

1. Find (non-calculator)

a. 15% of £560

b. 22.5% of £8400

2. Multiply out the brackets and simplify

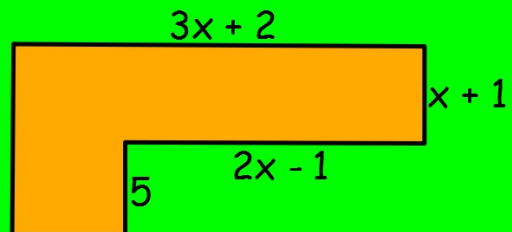
a.  $5(2x + 3) - 6(x - 4)$

b.  $10 + 3g(g - 5) - 2(g^2 - 4)$

3.  $\frac{4}{5}$  of the cars on the road are saloons. Of these saloons,  $\frac{1}{8}$  are red. What fraction of the cars on the road are red saloons?

4. a. Find an expression for the perimeter of this shape.

b. If the perimeter is 72 cm, find  $x$ .



## Starter

- Express as a product of prime factors
  - 48
  - 315
- Factorise, fully
  - $81g - 36gh^2$
  - $7p^2q - 14p^3qr + 28pq^3$
- Jane has set herself a target to run 10 miles every week.  
She runs  $1\frac{3}{4}$  miles on Monday,  $2\frac{1}{3}$  miles on Wednesday, and  $3\frac{1}{2}$  miles on Friday. How far does she have to run at the weekend in order to meet her target?
- A square and a rectangle have the same perimeter.  
The rectangle is 17.5 cm long and 12.5 cm wide.  
Calculate the length of one edge of the square.

## Starter

1. Round the following to 3 s.f.

a. 687450

b. 0.39754

c. 10.997

2. Multiply out the brackets and simplify

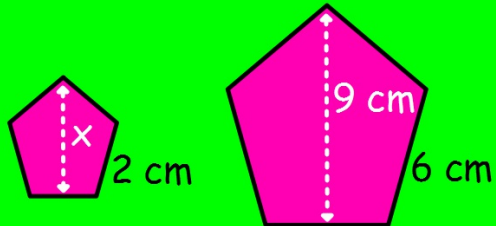
a.  $5x + 3(x + 10) - 2(x - 4)$

b.  $16p^2 - p(3p - 1) + 2(p^2 - 3)$

3. The following shapes are mathematically similar.

a. Calculate the scale factor

b. Find  $x$ .



4. Of the people invited to a party,  $\frac{3}{8}$  couldn't come because of illness and  $\frac{2}{5}$  couldn't come because of transport problems.

a. What fraction of those invited could come?

b. If 200 people had been invited, how many people actually came?

## Starter

1. Calculate

a.  $0.35 \times 200$

b.  $49 \div 7000$

2. Factorise

a.  $18abc - 27ac$

b.  $16j^2k^3 - 20j^3k^4 + 36j^2k^4$

3. A recipe for 12 biscuits uses:

300 g butter, 600 g flour and 200 g sugar

How much of each ingredient is needed to make 27 biscuits?

4. The area of a triangle is  $1\frac{1}{9} \text{ cm}^2$ .

If it is  $\frac{5}{6} \text{ cm}$  high, calculate the length of its base.