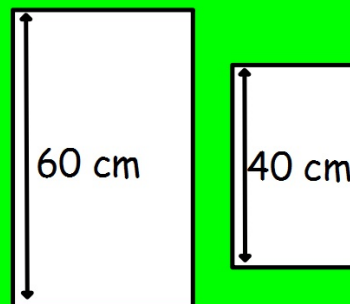


## Starter

1. Find the equation of the line passing through  
a. (0, -8) and (4, -6)                      b. (-3, -2) and (0, -9)

2. Two picture frames are mathematically similar in shape. The cost of the frames depends on their area.  
The smaller frame costs £4.60.  
Find the cost of the larger frame.



3. Michael bought a super soaker in Toys 'R' Us for £36.39.  
The item was reduced by 17.5% as part of a special promotion.  
How much did the gun cost before the promotion?
4. Solve  $6(g^2 - 6) = 2g(3g - 4) + 10$

## Starter

1. Round to 3 s.f.

a. 591437

b. 0.85079

c. 10.9961

2. Fully factorise

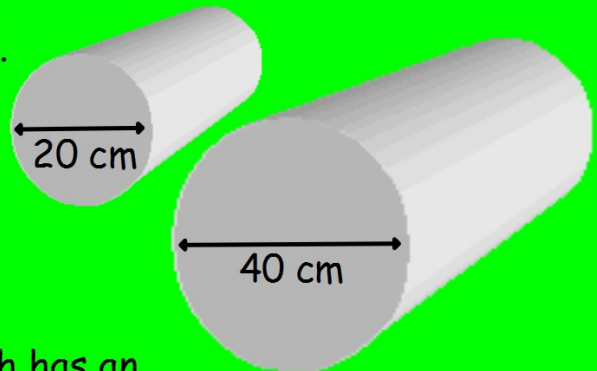
a.  $2gh + 6g^2$

b.  $42j^2km^3 + 14jkm^2 - 56jk^2m^4$

3. Two metal pipes are similar in shape.

The smaller pipe has a volume of  $8000 \text{ cm}^3$ .

Find the volume of the larger pipe.



4. Find the arc length of a sector which has an angle of  $125^\circ$  at its centre and a radius of 11.5 cm.

## Starter

1. Calculate

a.  $4 \times 3 - 8 \times (-7)$

b.  $4^2 - 9 \times (3 - (-8))$

2. Find the gradient and the y-intercept of each line below

a.  $2y - 6 = 3x$

b.  $7y + x - 3 = 0$

3. Last week Andy recorded that he took, on average, 3.3 putts per hole in his round of golf.

This week his average worked out as 3.16 putts per hole.

a. Express the decrease in the number of putts as a percentage of the original number.

b. At the same rate, how many weeks will it be till Andy can expect to take less than 3 putts per hole?

## Starter

1. If  $x = (-2)$ ,  $y = 6$ , and  $z = 5$ , find

a.  $3x^2 - 2yz$

b.  $z(y - x)^2$

2. Calculate

$$2^{3/4} + 1^{1/3} \times 3^{1/2}$$

3. These are the number of times a group of pupils and teachers managed to complete "The Wall"

8 13 18 20 18 3 15 10 7 23 13 11 18 5 30 15

a. Construct an ordered stem and leaf diagram.

b. Find the 5-figure summary for the data.

c. What is the semi-interquartile range?

## Starter

- Find the equation of the line passing through
  - $(0, -4)$  and  $(4, -12)$
  - $(5, -3)$  and  $(0, -7)$
- Mandy bought a doll in a "25% off" sale for £18.  
How much did the doll cost before the sale?
- 67.5% of £3800
  - $(-1)^4 - (-2)^3 + (-3)^2$
- Solve  $6h - 2(h - 5) + 5 = 10 - 3(6 - 2h)$