Starter

1. The straight line $2y - 3x = 32$ crosses the y-axis at point A.
   Find the coordinates of point A.

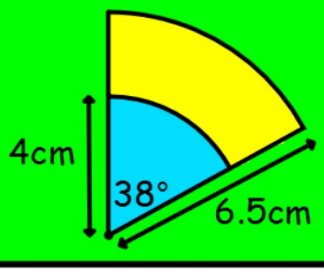
2. John's flat was bought for £82,000.
   It depreciated in value by 2.33% p.a. for two years before appreciating at a rate of 1.55% p.a. for three years.
   If John now sells his flat will he make a profit? Explain.

3. Sketch the line $y = ax + b$ where

   a. $a < 0$ and $b > 0$

   b. $a = 0$ and $b > 0$

4. Find the area of the yellow segment shown.



Starter

1. Calculate

   a. $^{2}/_{5} \times {}^{3}/_{7}$ b. $^{3}/_{4} - {}^{1}/_{5}$ c. $2^{1}/_{3} \div {}^{4}/_{9}$

2. Find the equation of a straight line which passes through the points (0, 8) and (-3, -9).

3. A sunflower grows at a rate of 4.87% per day.
   The sunflower was 93cm tall at 3pm on Tuesday.
   What height was the sunflower at 3pm on Monday?

4. Calculate the volume of a cylinder with a diameter of 6.42cm and height of 12.5cm. Give your answer correct to 2 significant figures.

Starter

1. Calculate the height of a cone with volume of 8750cm^3 and diameter of 120cm.

2. Find the area of a sector with
   a. radius 12cm and angle 49°.
   b. diameter 30m and arc length 31.42m.

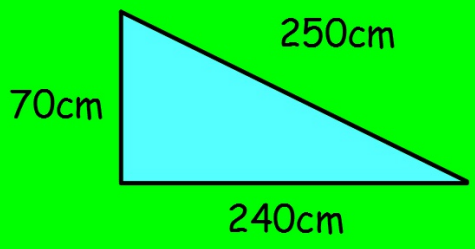
3. Two boxes of soap powder are mathematically similar.
   When full, the small one weighs 160 g and the large one 540 g.
   If the large box is 30 cm high, what is the height of the small one?

Starter

1. Find the diameter of a cone which has volume $1300m^3$ and height of 540m.

2. A straight line which is parallel to $x - 5y = 7$ passes through the point (0, 6).
   Find the equation of this straight line.

3. Determine if the triangle shown is right-angled.



4. Solve
   a. $3(2x - 5) < 21$
   b. $10 - 2(x + 1) - 3(x + 2) = 0$

Starter

1. Find the gradient of the line joining
   a. (2, -4) to (5, 2) b. (-6, -7) to (3, -2)

2. Sector AOB has an angle at centre of 52° with radius of 3.9m.
   Calculate the perimeter of the sector.

3. Find the coordinate point where the line $5x + 4y - 3 = 0$ crosses the y-axis.

4. Calculate the volume of the blue section in the diagram opposite.