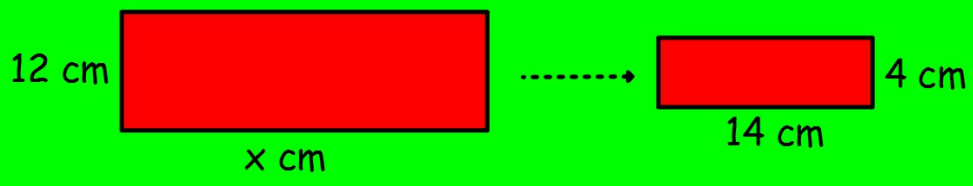
Starter

1. Multiply out the brackets and simplify
   a. $4(x - 3) + 2$ b. $6(2a + 1) - 3(a - 3)$

2. Calculate
   a. $3\frac{1}{3} - 1\frac{5}{6}$ b. $12 \div 2\frac{4}{7}$

3. The following shapes are mathematically similar.
   Calculate the length of x.



4. A coat was priced at £130. In a sale, it was reduced by 15%.
   What is the sale price of the coat?

Starter

1. Round the following to 2 s.f.
   a. 39.624 b. 1.0945 c. 0.0999

2. A group of students were asked to name their favourite superhero. They answered as follows:

Superman (20) Spiderman (8) Iron Man (3) Wonder Woman (5)

   Find the angles required to construct a pie chart.

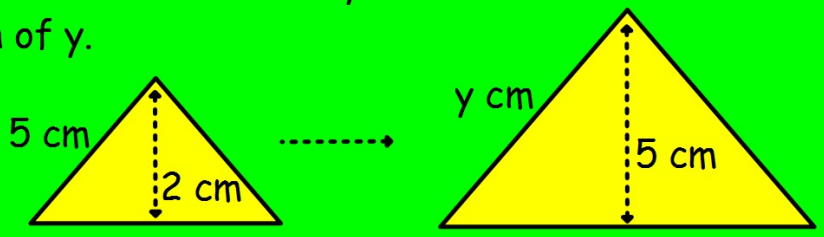
3. Fully factorise
   a. $2xy - 6x$ b. $x^3y^3 - x^2y^2 + xy$

4. A plane was flying at 35,000 ft when it hit a storm. The pilot lowered the plane's altitude by 45%.
   At what height was the plane now flying?

Starter

1. Calculate
   a. $1^{2}/_{5} + 3^{1}/_{2}$ b. $2^{3}/_{4} \times 3^{1}/_{5}$

2. The following shapes are mathematically similar.
   Calculate the length of y.



3. Solve the following
   a. $6(3x + 2) = 5x - (4x + 4)$ b. $10 - 4(2z - 5) = 3(4z + 1)$

4. A standard jar of coffee holds 240 g. In a special offer, 12% extra free was added.
   How much coffee will the new jar contain?

Starter

1. Find the volume of a cuboid which has length = 10 cm, breadth = 5 cm, and height = 7 cm.

2. These are the times taken (in minutes) for a group of cadets to complete an obstacle course.

   8 13 18 20 18 22 15 10 31 23 13 11 18 27 18 15

   a. Construct an ordered stem and leaf diagram.
   b. Find the range, mode and median.

3. Solve the following
   a. $5(3x - 1) - 9 = 16$ b. $3(2 - x) - 4 = 6(1 - x) + 4$

4. A car bought for £12,000 depreciated by 5% in its first year. How much was the car now worth?

Starter

1. Fully factorise
   a. $5ab + 15a^2b$ b. $16f^2gh^2 - 36fg^3$

2. Find the perimeter of a rectangle which has length = $3\frac{1}{6}$ cm and breadth = $1\frac{3}{4}$ cm.

3. a. A house bought for £150,000 appreciated in value by 3% in its first year. What was it now worth?
   b. The same house then appreciated in value by 2% the following year. What was it now worth?

4. Calculate the height of a cuboid (in cm) which has a volume = 67.2 **litres**, length = 80 cm and breadth = 35 cm.