Starter

1. Calculate
   a. $4^1/_3 + 5^1/_7$ b. $^3/_4$ of $5^1/_2$

2. Fully factorise
   a. $7p^2 + 21$ b. $18xy^2 - 36x^3y$ c. $42a^2b^3c + 24ab^3c^2$

3. Calculate the
   a. area of a circle with radius = 7 cm.
   b. circumference of a circle with radius = 12.5 m.

4. Stuart and David are arguing over who got the better deal in a sale. Stuart bought a £150 jacket for £120. David bought an £80 pair of jeans for £60.
   Who got the better deal, and why?

Starter

1. Calculate
   a. $3\frac{2}{5} - 1\frac{1}{4}$ b. $9 \div \frac{3}{5}$

2. Solve
   a. $7(2x - 3) = 2(3x - 5)$ b. $10 = 2(4g + 2) + 3(3g - 8)$

3. Calculate the
   a. area of a quarter-circle with radius = 4 cm.
   b. perimeter of a semi-circle with diameter = 10 cm.

4. The following information represents the ages of people at a recent screening of Cinderella:

   12 31 27 21 19 16 23 35 9 14 11 19 20

   a. Display the information in an ordered stem and leaf diagram.
   b. Find the 5-figure summary of this data.

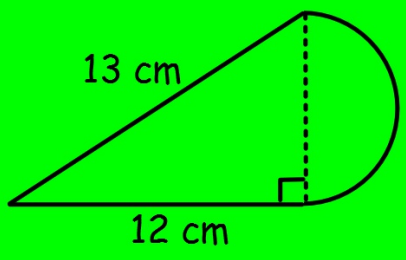
Starter

1. Round to 3 s.f.
   a. 5.949 b. 108693 c. 3.0973

2. A car is travelling at a speed of 18 m.p.h. in a 30 m.p.h. zone.
   It then increases its speed by 40%. How fast is it now travelling?

3. Robert weighed $16\frac{1}{2}$ stone. He then lost $\frac{1}{8}$ of his weight after deciding to diet.
   a. How much weight did he lose?
   b. What does he weigh now?

4. Find the area of this shape
   (right-angled triangle + semi-circle):



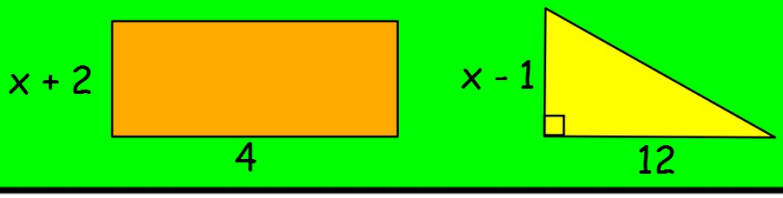
Starter

1. Express the following in number form
   a. 3.6×10^{-4} b. 1.087×10^{5}

2. Find the area of
   a. a quarter circle with diameter = 50 cm.
   b. a sector of a circle with angle = 65° at the centre and radius = 7 cm.

3. A 750 g box of "Special J" had 12.5% extra free.
   If the box costs £1.27, find the cost per 100 g.

4. The area of the rectangle is equal to the area of the triangle.
   Find x.

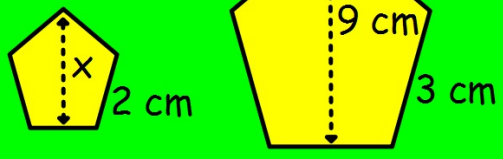


Starter

1. Express the following numbers in scientific notation

   a. 0.0068 b. 156000

2. The following shapes are mathematically similar.
   Find x.



3. Find the perimeter of a quarter circle with radius = 2.5 cm.

4. Joanna bought a pair of jeans originally costing £45 but reduced by 25% in a sale. The following weekend, there was another offer where all sale prices were reduced by a further 10%.
   How much money would Joanna have saved if she had waited until the weekend?