

Starter

1. Express the following as a product of prime factors

a. 105

b. 252

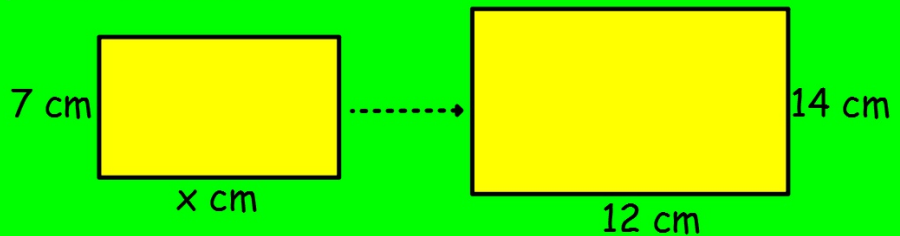
2. Solve the following

a. $3(2x - 5) = 2(x + 3)$

b. $16 - 2(4x - 1) + 3(x - 3) = 10$

3. The following shapes are similar.

Calculate the length of x .



4. On Saturday, Morgan spent $\frac{5}{12}$ of the day sleeping. If he then spent $\frac{3}{8}$ of the day studying for his prelims, how many hours did he have left to relax?

Starter

1. Round the following to 2 s.f.

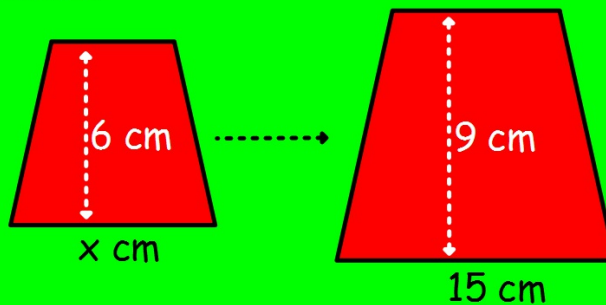
a. 39624

b. 1.0945

c. 0.0999

2. The following shapes are similar.

Calculate the length of x .



3. Solve the following

a. $4(3x + 1) = 4 - 3(x - 7)$

b. $3x - 2(2x + 3) + 3 = 2(x - 1)$

4. The population of Scotland is approximately 5×10^6 .

If the ratio of women to men is 55:45, how many women are there?

Starter

1. Calculate

a. 0.175×600

b. $34.8 \div 600$

2. Change the following into number form

a. 2.5×10^{-3}

b. 1.09×10^5

3. If $u = (-2)$, $v = (-3)$ and $w = 9$, evaluate

a. $uv - 4w$

b. $2(w - v)^2$

c. $u^2w - v^3$

4. The ratio of white to red cars passing a check point on a road during one hour was 3 : 7. There were 63 white cars.
How many red cars were there?

Starter

1. Round the following to 1 d.p.

a. 36.802

b. 1.891

c. 0.06972

2. Fully factorise

a. $6f^2g - 18f^3$

b. $12xy^2z^2 - 18xy^2z + 45x^2yz$

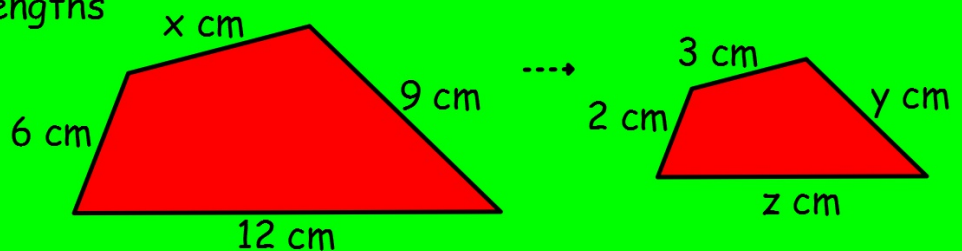
3. Solve the following

a. $2(4x - 1) = 2(x + 1)$

b. $15 = 3(2x - 1) - 4(1 - x)$

4. The following shapes are similar.

Calculate the lengths
of x , y and z .



Starter

1. Multiply out the brackets and simplify

a. $5(x^2 - 8) + 2x(x - 2)$ b. $10 - (3x - 7) + 2x$

2. An alloy contains iron and copper in the ratio of 5:2.

A block of this alloy contains 4.9 g of iron.

What weight of copper does it contain?

3. Find the following

a. $\frac{1}{7}x^{\frac{3}{4}}$

b. $3^{\frac{1}{5}} - 1^{\frac{2}{3}}$

c. $12 \div \frac{2}{5}$

4. Using the information given in the diagram,
create an equation and solve to find x:

