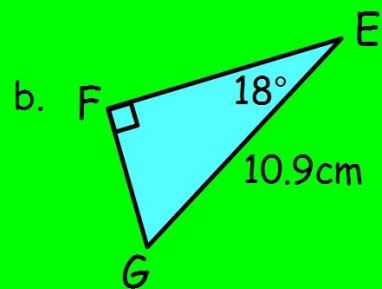
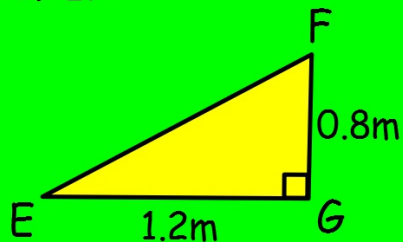


Starter

1. Find the equation of the line which passes through $(0, -3)$ and $(4, 7)$.
2. Find $2\frac{2}{3} - \frac{1}{2}$ of $1\frac{5}{6}$
3. James bought his flat for £88,000.
When he had it valued a year later it was worth £90,500.
 - a. Express the increase in value as a percentage of the original price.
 - b. If the flat continues to appreciate at this rate how much will it be worth in a further 3 years?

4. Find the length of EF:

a.



Starter

1. Expand and simplify the following:

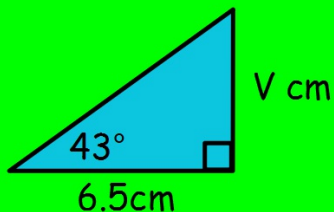
a. $5k(3k - 7) + 18k^2$

b. $3 - 8(2j - 5) - 4(5j + 9)$

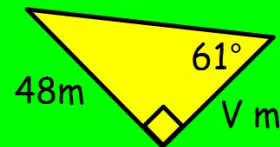
2. Chocolate raisins are reduced by 35% and now cost £2.60 for a bag. How much did they cost before the reduction in price?

3. Find the length of side V in each triangle:

a.



b.



4. The 1800 mile flight from Glasgow to Lisbon takes 3 hours 20 mins. Calculate the average speed of the plane.

Starter

1. Fully factorise:

a. $5fg^3 + 35g^2$

b. $28a^4b^3c + 14ab^2c$

2. For the following lines, find the gradient and coordinates of the y-intercept:

a. $4y = 5x + 7$

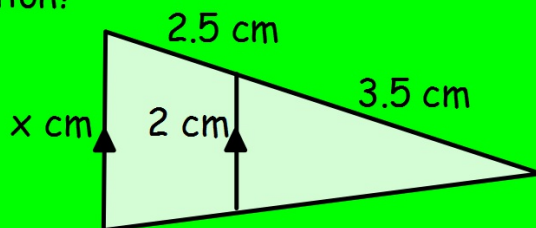
b. $3 - 5y + 6x = 0$

3. Bob leaves his house at 10.32 and drives 24 km to the train station.

a. If the journey takes 45 mins, calculate his average speed.

b. The 11.29 train is 7 mins late. How long has Bob had to wait at the train station?

4. Find x:



Starter

1. Find the gradient of each of the following lines:

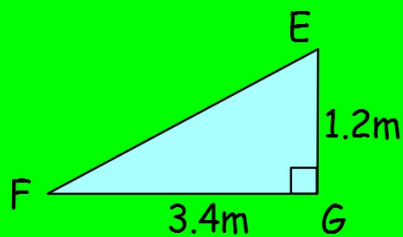
a. $y = -3x + 7$

b. $5y + 4x = 3$

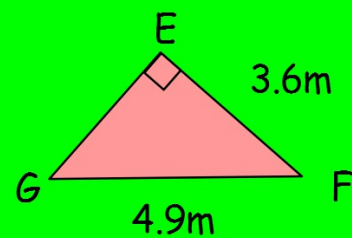
c. $8 - 6y + 3x = 0$

2. Find the size of angle EFG.

a.



b.



3. A cylinder has a total volume of 7940cm^3 .

If the height is 134cm, calculate the diameter correct to 2 decimal places.

4. Solve: $4(x - 3) < 2 - (x + 4)$

Starter

1. Solve the following:

a. $3(4x - 3) - 4(2x + 4) = 10$

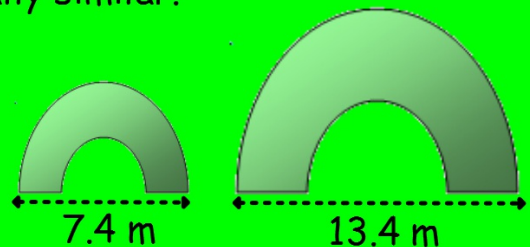
b. $6 - 3(2x + 1) > 9x + 4$

2. A spacecraft travelling at an average speed of 1.76×10^4 km/h takes 21 h 30 min to reach the moon from launching time.

Estimate the distance from the earth to the moon, giving your answer in scientific notation.

3. These tunnel archways are mathematically similar.

If the area of the larger arch is 56 m^2 ,
what is the area of the smaller arch?



4. Calculate the arc length of a circle sector with radius 4.11cm and an angle of 41° at its centre.