

Starter

1. Multiply out the brackets and simplify

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

b. $7 + 3(2x - 1) - 4(5x - 9)$

2. Change the following into number form

a. 3.84×10^7

b. 1.097×10^{-4}

3. Find the area of:

a. A quarter circle with radius 3 cm.

b. A semi-circle with diameter 8 cm.

4. Andrew bought his flat for £85,000. If the flat continues to appreciate at a rate of 3.2% p.a., how much will it be worth in a further 3 years?

Starter

1. Calculate:

a. $\frac{4}{7} + \frac{2}{21}$

b. $\frac{3}{4} - \frac{5}{6}$

c. $\frac{2^2}{5} \div \frac{1^2}{3}$

2. Change the following into standard form

a. 2940000

b. 0.06010

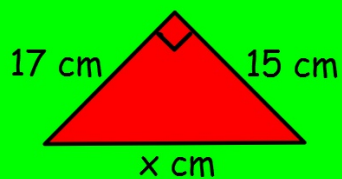
3. Find the **perimeter** of:

a. A semi-circle with diameter 12 cm.

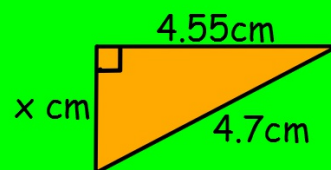
b. A quarter circle with radius 7 cm.

4. Find x

a.



b.



Starter

1. Solve the following:

a. $6(2u - 3) - 5(3u - 7) = 12$

b. $8k(2k - 1) - (10k^2 - 3) = 6k^2$

2. A rental company charges £56.50 for 4 days' hire of a bicycle.
What would be the charge for 7 days?

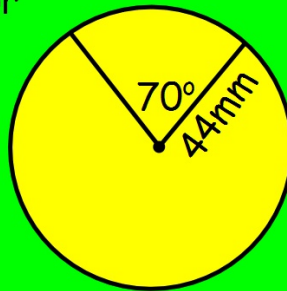
3. When $d = 2$, $f = -1$ and $g = -3$, find

a. $d^2 - fg$

b. $2f^2d^2$

c. $3f - dg + f^3$

4. Find the area of the **minor** sector



Starter

1. Multiply out the brackets and simplify

$$4x(x - 2) + 3x(5 - x^2)$$

2. A picnic blanket originally cost £34.99 but was reduced to £29.99 in a sale.

Express the decrease in value as a percentage of the original value.

3. Find the gradient of the line joining

a. (-4, 1) and (3, 15)

b. (-8, 8) and (12, -2)

4. Jack bought his car for £14,350.

It has depreciated at a rate of 13.2% per annum over the last 6 years.

How much is his car now worth?

Starter

1. Fully factorise
 - a. $12ab^3 + 18a^2b$
 - b. $28d^3f^2g - 7df^4g + 42d^2fg^3$
2. Find the
 - a. area of a semi-circle with diameter 24 cm.
 - b. perimeter of a quarter circle with radius 3.5 cm.
3. Ian is using 2 m slabs to edge around the perimeter of a flower bed. He needs exactly 36 slabs. If he buys 3 m slabs instead, how many will he need?
4. Calculate the compound interest earned on £42,015 when it is invested for 4 years at an interest rate of 7% p.a. Give your answer correct to 1 decimal place.