

Starter

1. Expand the brackets and simplify

a. $(3x - 4)(2x + 5)$

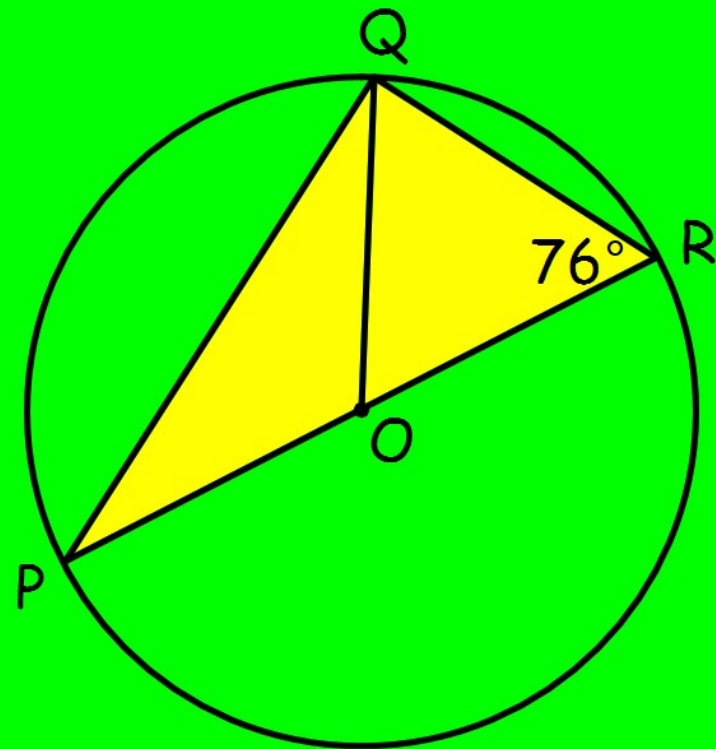
b. $7 - (x - 5)(3x + 8)$

2. Find the volume of a cone with a height of 15cm and a radius of 1cm.

Take $\pi = 3.14$.

3. Simplify: $\frac{4j^5 \times 3j^{-2}}{6j^9}$

4. Find the size of angle POQ in the diagram opposite.



Starter

1. Calculate

a. $\frac{3}{8} - \frac{2}{3}$

b. $6\frac{1}{2} \times 3\frac{1}{4}$

c. $3 \div 2\frac{2}{3}$

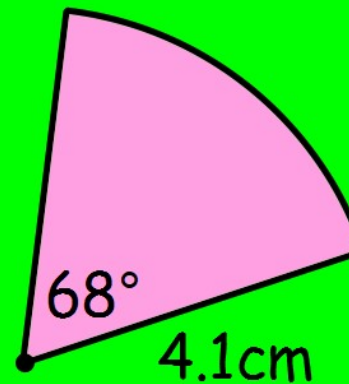
2. A sample of duck eggs is weighed. The weights of the eggs (in grams) are shown below.

45, 38, 43, 49, 38

Find the mean and standard deviation of this sample.

3. Find the point of intersection of $3y - 4x = 26$ with $4y + 2x = -2$.

4. Find the **perimeter** of the sector shown opposite.



Starter

1. Ray bought a brand new Honda Jazz in 2008 for £8,995. Since then, the car has depreciated steadily at a rate of 21.38% per annum.
How much is the car worth in 2014?

2. Simplify

a. $\sqrt{50} + \sqrt{200}$

b. $\sqrt{75} - \sqrt{48}$

c. $3\sqrt{18} \times 4\sqrt{2}$

3. Factorise fully.

$$6p^2 - 33p + 36$$

4. Find the coordinates of the point where the line $4y - 3x = 8$ crosses the x-axis.

Starter

1. Factorise fully.

a. $4q^2 - 100$

b. $3r^2 + 15r - 18$

2. Hafza measures that the temperature in her house fell by 14% over the course of 12 hours.

If the temperature at the end of the 12 hours was 24.5° , what was the temperature at the start of her experiment?

3. Solve each linear inequation below.

a. $4k - 8 > 16$

b. $5 - 9f \leq 90$

4. Find the equation of the straight line which is parallel to $3y - 8x = 14$ and which passes through the point $(2, -3)$.