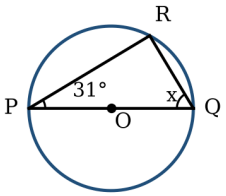
Day 218 **A Tier 10-a-day**

1 A sector has angle 60° at the centre and arc length 4π cm.
Work out the radius of the sector.

2 Solve $-3x + 6 \geq x + 2$

3 PQ is a diameter of the circle.
Angle QPR = 31°.
Work out the size of angle x.
Give a reason for each step of your working.



4 The table shows the probabilities of the outcomes of a biased spinner.
(a) Work out the value of x.
(b) The spinner is spun 100 times. Estimate the number of times it lands on green.

Colour	Red	Blue	Green	Yellow
Probability	0.1	x	2x	0.75

5 A rectangle has length $(2x - 3)$ cm and width $(2x - 4)$ cm.
The perimeter of the rectangle is 50 cm.
(a) Work out the value of x.
(b) Work out the area of the rectangle.

Day 218	A Tier 10-a-day
6 The population of a town is 59,000 and increases by 20% per year. (Calculator) Work out the population after 6 years. Give your answer to the nearest whole number.	
7 Expand and simplify $(x + 2)(2x - 1)(x - 5)$	
8 (a) Show that $0.\dot{9}\dot{2} = \frac{92}{99}$ (b) Hence write $2.\dot{9}\dot{2}$ as a mixed number in its simplest form.	
9 Work out the value of (a) $100^{\frac{-1}{2}}$ (b) 2^{-4}	
10 A bag contains 5 black pens and 4 blue pens. Three pens are taken at random without replacement. Work out the probability that exactly one of the three pens is blue.	