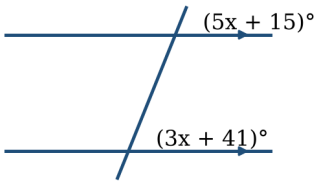
Day 335 **A Tier 10-a-day**

1 The table shows the probabilities of the outcomes of a biased spinner.
(a) Work out the value of y.
(b) The spinner is spun 300 times. Estimate the number of times it lands on blue.

Colour	Red	Blue	Green	Yellow
Probability	0.35	y	y	0.15

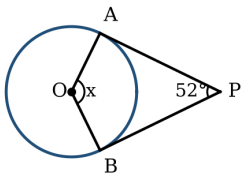
2 A plumber charges a call-out fee of £30 plus £30 for each hour of work.
(a) Write a formula for the total cost, £C, after h hours.
(b) Leo pays £300 in total. Work out the number of hours.

3 The diagram shows two parallel lines crossed by a straight line.
(a) Work out the value of x.
(b) Work out the size of the angle marked (5x + 15)°.
The diagram is not drawn accurately.



4 Make x the subject of $y = (x + 4)^2 - 1$

5 Maya and Jack each invest £2500 for 3 years. (Calculator)
Maya's account pays 10% simple interest per year.
Jack's account pays 10% compound interest per year.
Work out how much more interest Jack earns than Maya.

Day 335	A Tier 10-a-day
6 (a) Change 2.5 cm^2 to mm^2. (b) Change 2,500,000 cm^3 to m^3.	
7 PA and PB are tangents to a circle with centre O. Angle APB = 52°. Work out the size of angle x (angle AOB). Give a reason for each step of your working. 	
8 By rounding each number to 1 significant figure, estimate the value of $\frac{37 + 4.5}{0.53}$	
9 The value of a painting is increased by 10%. The new value is then decreased by 10%. Work out the overall percentage change.	
10 A circle has a radius of 20 cm, correct to the nearest cm. (Calculator) Work out the lower bound for the area of the circle. Give your answer to 3 significant figures.	