Day 100	A Tier 10-a-day
1 A pizza slice is a sector of a circle has radius 18 cm and an arc length of 8π cm. Work out the angle at the centre of the sector.	
2 Aisha reads $\frac{5}{8}$ of a book and has now read 70 pages. How many pages does the whole book have?	
3 The probability that Isla scores a goal is 0.7. The probability that Cara scores a goal is 0.3. The two events are independent. Work out the probability that at least one of them will score a goal.	
4 Dev buys a watch for £270 and sells it making a profit of 30%. Work out the selling price.	
5 (a) Factorise $x^2 - 9$ (b) Use the same idea to work out $149^2 - 51^2$ without a calculator.	

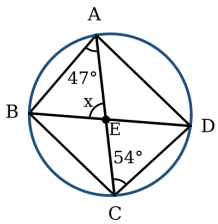
Day 100 **A Tier 10-a-day**

6 Ella and Omar each invest £2500 for 2 years. (Calculator)
Ella's account pays 6% simple interest per year.
Omar's account pays 6% compound interest per year.
Work out how much more interest Omar earns than Ella.

7 Here are four fractions: $\frac{5}{6}$ $\frac{9}{24}$ $\frac{1}{2}$ $\frac{14}{40}$
Which one of these fractions is equal to a recurring decimal?

8 The length and width of a rectangular garden are 9.3 m and 6.4 m.
Each measurement is correct to 1 decimal place.
Work out the lower bound for the perimeter.

9 A, B, C and D are points on a circle. AC and BD meet at E.
Angle BAC = 47° and angle ACD = 54°.
Work out the size of angle x (angle AEB).
Give reasons for your working.



10 Solve the simultaneous equations
$y = x^2 + 3x - 12$
$y = x + 3$