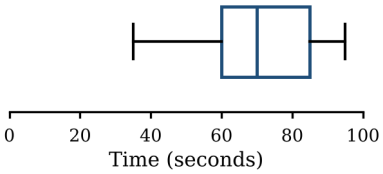
Day 161 **A Tier 10-a-day**

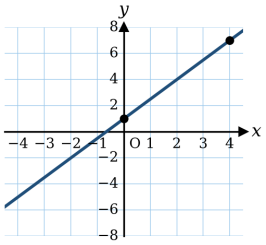
1 Write $2^4 \times 2^6 \div 2^5$ as a single power of 2.

2 Expand and simplify
$(x - 4)(2x - 5)$

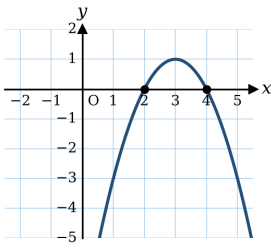
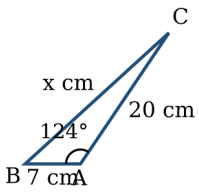
3 The box plot shows the times taken, in seconds, by the students in Class A to run 100 m.
(a) Write down the median and the interquartile range.
For Class B the median is 65 and the interquartile range is 30.
(b) Compare the distributions of the two classes.



4 Find the equation of the straight line shown.
Give your answer in the form y = mx + c



5 A machine is worth £25,000 and loses 5% of its value each year. (Calculator)
Work out its value after 6 years.
Give your answer to the nearest pound.

Day 161	A Tier 10-a-day
6 The diagram shows the graph of $y = -x^2 + bx + c$. Find the value of b and the value of c.  	
7 y is directly proportional to the square of x. When x = 6, y = 324. (a) Find a formula for y in terms of x. (b) Work out the positive value of x when y = 36.	
8 Work out the value of x. (Calculator) Give your answer to 3 significant figures. The diagram is not drawn accurately.  	
9 A metal block has mass 730 g and volume 180 cm^3. The mass is measured to the nearest 10 grams and the volume to the nearest cm^3. (Calculator) Work out the lower bound for the density of the metal in g/cm^3. Give your answer correct to 3 significant figures.	
10 C is the point (−6, 0) and D is the point (−1, 5). (a) Find the midpoint of CD.	