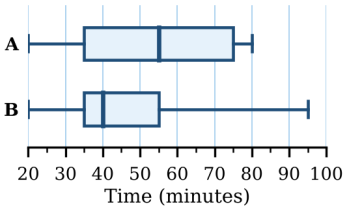
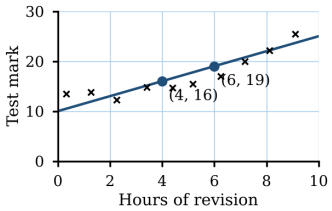
Day 154	S Tier 10-a-day
1 80 fish in a lake are caught, tagged and put back. Later, a second sample of 120 fish is caught. 6 of these are tagged. (a) Work out an estimate for the number of fish in a lake. (b) State one assumption you have made.	
2 Solve $12x^2 - 3 = 5x$	
3 Work out $(1\frac{1}{2} + 2\frac{1}{4}) \div 2\frac{1}{2}$ Give your answer as a mixed number or a fraction in its simplest form.	
4 The box plots show the times taken by two groups, A and B. (a) Work out the interquartile range for each. (b) Compare the distributions of A and B. 	
5 Work out the value of $\frac{2m - n}{k}$ when $m = -4$, $n = -3$ and $k = 3$.	

Day 154	S Tier 10-a-day
6 The scatter graph shows hours of revision (x) and test mark (y). The equation of the line of best fit is y = 1.5x + 10. (a) Estimate y when x = 9. (b) Explain why an estimate of y when x = 15 may be unreliable.  	
7 The point P(2, 6) is reflected in the x-axis. The image is then rotated 90° clockwise about the origin. (a) Write down the coordinates of the final image of P. (b) Describe fully the single transformation that is equivalent to these two transformations.	
8 The HCF of two numbers is 12 and their LCM is 72. One of the numbers is 36. Work out the other number.	
9 A point A is on level ground in line with the base of a cliff. (Calculator) The angle of elevation of the top of the cliff from A is 41°. B is a point on the same line, 80 m further from the cliff than A. The angle of elevation of the top of the cliff from B is 16°. Work out the height of the cliff. Give your answer to 1 decimal place.	
10 a = 0.327 and b = 3.45, both correct to 3 significant figures. Work out a ÷ b. Write down your answer to a suitable degree of accuracy. You must show your working and give a reason for your answer. (Calculator)	