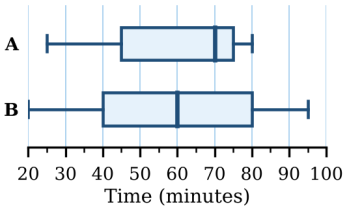
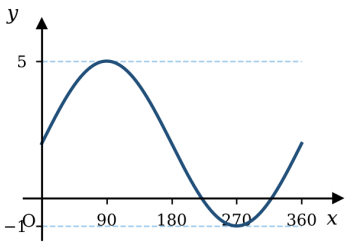
| Day 6 | S Tier 10-a-day |
|---|---|
| **1** The price of a phone is decreased by 15%. The new price is then increased by 10%. Work out the overall percentage change in the price. | |
| **2** Solve $\frac{x-1}{2} - \frac{x+1}{6} = 2$ | |
| **3** The box plots show the times taken by two groups, A and B.<br>(a) Work out the interquartile range for each.<br>(b) Compare the distributions of A and B.<br> | |
| **4** Factorise $4x^2 - 29x + 30$ | |
| **5** $A = 2 \times 7^3$<br>$B = 3^4 \times 7^2$<br>Write down, as a product of prime factors,<br>(a) the HCF of A and B<br>(b) the LCM of A and B | |

| Day 6 | S Tier 10-a-day |
|---|---|

**6** The diagram shows the graph of $y = a \sin x + c$.
(a) Write down the value of a and the value of c.
(b) Work out the value of y when x = 150°.




**7** In a fruit box, the ratio of the number of apples to the number of pears is 5 : 2.
Then 5 more apples are added and 6 pears are removed.
The ratio is now 5 : 1.
How many pears were there at the start?

**8** The time for a pendulum to swing is directly proportional to the square root of the length of the pendulum.
The length of the pendulum is increased by 125%.
Work out the percentage change in the time for a pendulum to swing.

**9** A force of 355 N acts on a surface, correct to the nearest 5.
The area of the surface is 80 $m^2$, correct to 1 significant figure.
Work out the lower bound of the pressure.
Give your answer correct to 3 significant figures. (Calculator)

**10** The diagram shows a square inside a circle of radius 3 cm.
The four vertices of the square lie on the circle.
Work out the area of the shaded region. Give your answer in terms of π.

