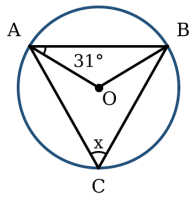
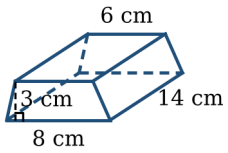
| Day 142 | A Tier 10-a-day |
|---|---|
| **1** $E = \frac{1}{2}mv^2$<br>Work out the value of E when m = 2 and v = −7 | |
| **2** A, B and C are points on a circle with centre O.<br>Angle OAB = 31°.<br>(a) Work out angle AOB.<br>(b) Work out the size of angle x.<br>Give reasons for your answers.<br> | |
| **3** Solve −5x + 8 > −x − 4 | |
| **4** Nadia sells a games console for £250 and makes a profit of 25%.<br>Work out how much Nadia paid for the games console. | |
| **5** A bag contains 6 red, 2 blue and 2 green counters.<br>Two counters are taken at random without replacement.<br>Work out the probability that the two counters are the same colour. | |

**Day 142** **A Tier 10-a-day**

**6** The diagram shows a prism.
The cross-section of the prism is a trapezium.
Work out the volume of the prism.
The diagram is not drawn accurately.




**7** The population of Region P is $3 \times 10^8$.
The population of Region Q is $1.5 \times 10^8$.
How many times bigger is the population of Region P than the population of Region Q?

**8** The mean of 10 numbers is 59.
Another number is added. The mean of the 11 numbers is now 56.
Work out the number that was added.

**9** (a) Write 0.00011 in standard form.
(b) Write $5.07 \times 10^3$ as an ordinary number.

**10** The graph shows the distance travelled by a runner.
(a) For how many minutes did the runner stop?
(b) Work out the speed during the first part of the journey. Give your answer in km/h.

