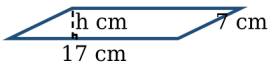
Day 277	A Tier 10-a-day
1 The area of this parallelogram is 51 cm^2. Work out the value of h. The diagram is not drawn accurately.  	
2 A car travels at 90 km/h. Work out this speed in metres per second.	
3 A cylinder has radius 4 cm. It contains water to a depth of 18 cm. (Calculator) All the water is poured into an empty tank with a rectangular base 15 cm by 16 cm. Work out the depth of the water in the tank. Give your answer to 3 significant figures.	
4 Work out $2 \times (1 + 3.8 \div 100)^3$ (Calculator) Give your answer correct to 3 significant figures.	
5 Triangle ABC: angle B = 90°, AC = 11 cm, AB = 9 cm. Triangle XYZ: angle Z = 90°, XY = 11 cm, XZ = 9 cm. Are the two triangles congruent? Give a reason for your answer.	

Day 277 **A Tier 10-a-day**

6 The table shows information about 64 people.
One person is chosen at random.
(a) Find the probability that the person is in Year 11 and walks to school.
(b) The person travels by bus. Find the probability that they are in Year 10.

	Bus	Walk	Total
Year 10	26	13	39
Year 11	19	6	25
Total	45	19	64

7 Expand and simplify
$(x + 1)(x - 2)(x + 4)$

8 Write $0.3\dot{8}$ as a fraction in its simplest form.

9 A bag contains red counters and blue counters in the ratio 2 : 1.
12 more red counters are added to the bag.
The ratio of red counters to blue counters is now 5 : 1.
How many counters were in the bag at the start?

10 Solve the simultaneous equations
$y = x^2 + 4x - 1$
$y = 4x$