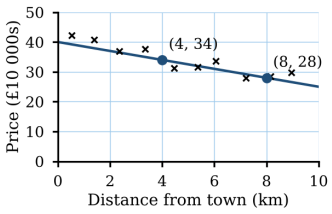
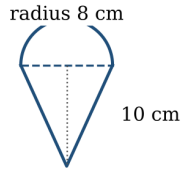
Day 87	S Tier 10-a-day
1 The length of a rope is 3.2 m, correct to 1 decimal place. Write down the error interval for the length of a rope, using l.	
2 The ratio of juniors to seniors in a school is 5 : 3. 70% of the juniors and 50% of the seniors play a sport. What percentage of all of these students play a sport?	
3 (a) Solve $6 - 5x > 11$ (b) n is an integer. Write down all the values of n that satisfy $-1 \leq 3n - 1 < 11$	
4 Work out the exact value of $\tan 30° - \cos 60°$ Give your answer in its simplest form, as a fraction or surd. Do not use a calculator.	
5 The scatter graph shows distance from town (x) and price (y). The line of best fit passes through (4, 34) and (8, 28). (a) Find its equation in the form y = mx + c. (b) Explain what its gradient tells you.  	

Day 87	S Tier 10-a-day

6 The point P(2, −5) lies on the graph of y = f(x).
Write down the coordinates of the image of P on the graph of
(a) y = f(x − 5) (b) y = f(x) + 5

7 A solid is made from a hemisphere joined to a cone. Both have radius 8 cm and the slant height of the cone is 10 cm.
Work out the total surface area of the solid.
Give your answer in terms of π.



8 A rectangle has area $(9 + 4\sqrt{5})$ cm^2 and length $(2 + \sqrt{5})$ cm.
Find the width of the rectangle.
Give your answer in the form $a + b\sqrt{5}$

9 Show algebraically that k(k + 1)(k + 2)(k + 3) + 1 is a square number for all positive integer values of k.

10 OAB is a triangle. OA = **a** and OB = **b**.
M is on OA with OM : MA = 2 : 1. N is on AB with AN : NB = 1 : 4.
(a) Find ON in terms of **a** and **b**.
(b) Find MN in terms of **a** and **b**.
The diagram is not drawn accurately.

