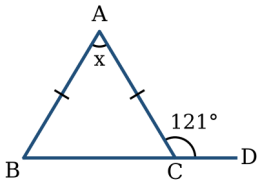
Day 116 **A Tier 10-a-day**

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

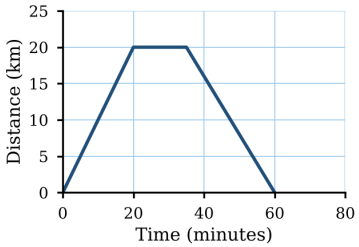
2 ABC is an isosceles triangle with AB = AC.
BCD is a straight line.
Angle ACD = 121°.
Work out the size of angle x.
The diagram is not drawn accurately.



3 Simplify fully
(a) $\frac{16x^5y^5}{8x^4y^4}$
(b) $(3x^3y^4)^4$

4 (a) Write 0.68435 correct to 3 significant figures.
(b) Write 8.4219 correct to 1 decimal place.

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



Day 116	A Tier 10-a-day
6 Work out $(4\frac{1}{2} - 3\frac{1}{4}) \div 1\frac{1}{2}$ Give your answer as a mixed number in its simplest form.	
7 Two similar models are 4 cm and 12 cm tall. The surface area of the smaller model is 20 cm^2. Work out the surface area of the larger model.	
8 Jug A contains 15 litres of a mixture of red paint and white paint in the ratio 2 : 1. Jug B contains 5 litres of a mixture of red paint and white paint in the ratio 4 : 1. The contents of both jugs are mixed together. Work out the ratio of red paint to white paint in the mixture. Give your answer in its simplest form.	
9 Solve $x^2 \geq 4$	
10 The mean mark of 5 boys in a test is 59. The mean mark of 7 girls in the same test is 41. Work out the mean mark of all 12 people.	