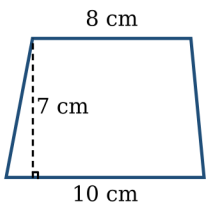
Day 46	A Tier 10-a-day
1 $E = \frac{1}{2}mv^2$ Work out the value of E when m = 14 and v = 5	
2 A bag contains $16\frac{7}{8}$ kg of flour. Each cake uses $\frac{5}{8}$ kg of flour. How many cakes can be made?	
3 A lorry travels at 63 km/h. Work out this speed in metres per minute.	
4 On a stage, a lighthouse flashes every 15 seconds. A green light flashes every 18 seconds. They flash together at the start. After how many seconds will they next flash together?	
5 The diagram shows a trapezium. Work out the area of the trapezium. The diagram is not drawn accurately. 	

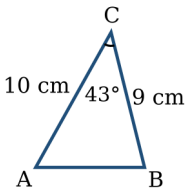
Day 46	A Tier 10-a-day

6 $f(x) = \frac{x + 1}{4}$

(a) Find $f^{-1}(x)$

(b) Work out $f^{-1}(-5)$

7 Work out the area of triangle ABC. (Calculator)
Give your answer to 3 significant figures.
The diagram is not drawn accurately.



8 Make x the subject of $y = 4x^2 - 4$

9 Rationalise the denominator of $\frac{40}{4 + \sqrt{6}}$

Give your answer in the form $a + b\sqrt{c}$ where a and b are integers.

10 y is inversely proportional to $\sqrt{x}$.
When x = 1, y = 3.
(a) Find a formula for y in terms of x.
(b) Work out the value of y when x = 100.