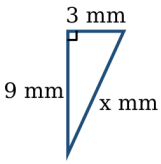
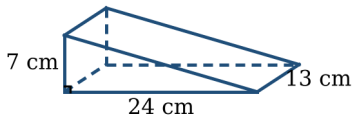
Day 63	A Tier 10-a-day
1 A taxi company charges £4 plus £2 for each mile. (a) Write a formula for the total cost, £C, after m miles. (b) Maria pays £32 in total. Work out the number of miles.	
2 Work out the length of x. (Calculator) Give your answer to 3 significant figures. The diagram is not drawn accurately. 	
3 A scientist wants to estimate the number of frogs in a pond. She catches 80 frogs, marks each one and returns them. Later she catches a second sample of 60 frogs. 20 of these are marked. Work out an estimate for the total number of frogs in a pond.	
4 (a) Solve $-18 \leq 5x + 2 \leq -3$ (b) Write down all the integer values of x that satisfy this inequality.	
5 Ben invests £1000 in a savings account. (Calculator) The account pays 6% compound interest per year. Work out the amount in the account after 4 years.	

Day 63	A Tier 10-a-day
6 (a) Simplify $\sqrt{147}$ (b) Simplify $\sqrt{147} + \sqrt{48}$	
7 f(x) = 6x + 2 (a) Find $f^{-1}(x)$ (b) Work out $f^{-1}(-2)$	
8 The diagram shows a triangular prism. The cross-section is a right-angled triangle. Work out the total surface area of the prism. The diagram is not drawn accurately. 	
9 The value of a painting increases by 10% each year. (Calculator) After 2 years it is worth £38,115. Work out its value at the start.	
10 A solid cone has base radius 12 cm and perpendicular height 9 cm. Work out the total surface area of the cone. Give your answer in terms of π.	