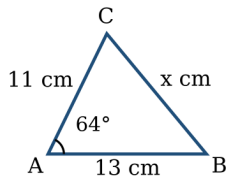
Day 186	A Tier 10-a-day
1 A ladder reaches 24 m up a vertical wall. The ladder is 30 m long. Work out how far the foot of the ladder is from the wall.	
2 Work out $5\frac{4}{5} - 3\frac{1}{2}$ Give your answer as a mixed number in its simplest form.	
3 A cuboid has length 7 cm and width 11 cm. Its total surface area is 298 cm^2. Work out the height of the cuboid.	
4 Work out $6.3 \times (1 + 2.8 \div 100)^3$ (Calculator) Give your answer correct to 3 significant figures.	
5 y is directly proportional to the cube of x. When x = 4, y = 192. (a) Find a formula for y in terms of x. (b) Work out the value of y when x = 6.	

Day 186 **A Tier 10-a-day**

6 p : q = 5 : 6
q : r = 6 : 1
(a) Work out the ratio p : q : r
(b) p, q and r add up to 36. Work out the value of r.

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



8 The table gives information about 166 measurements.
A histogram is drawn using this information.
(a) Work out the missing frequency.
(b) Work out the height of the bar for the class $0 < t \leq 5$.

Time, t (minutes)	Frequency
$0 < t \leq 5$	4
$5 < t \leq 20$	?
$20 < t \leq 50$	78
$50 < t \leq 80$	66

9 Ben spends $\frac{3}{4}$ of the money on a book and $\frac{3}{5}$ of the money that is left on a game.
Ben has £36 left.
How much money did Ben have to begin with?

10 $f(x) = x^3 - 3x^2 + 2x + 7$
Show that the equation $f(x) = 0$ has a solution between $x = -2$ and $x = -1$.