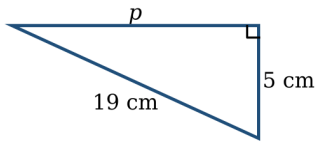
Day 91	B Tier 10-a-day
1 A pencil costs p pence. A pen costs 35 pence more than a pencil. (a) Write an expression, in terms of p, for the cost of a pen. (b) Write an expression, in terms of p, for the total cost of 3 pencils and 4 pens. Give your answer in its simplest form.	
2 Work out (a) $2^2 + 2^3$ (b) $\sqrt{9} - 3^2$	
3 Work out the gradient of the straight line that passes through the points (5, 7) and (6, 9).	
4 In a room, the ratio of red counters to blue counters is 2 : 5. There are 20 blue counters. More red counters join so that there are equal numbers of red counters and blue counters. How many red counters join?	
5 Work out the length of p. (Calculator) Give your answer correct to 1 decimal place. The diagram is not drawn accurately. 	

Day 91 **B Tier 10-a-day**

6 There are 100 visitors.

$\frac{3}{10}$ of them are men and the rest are women.

$\frac{2}{5}$ of the men and $\frac{2}{5}$ of the women buy a drink.

One person is chosen at random. Work out the probability that they buy a drink.

7 The circumference of a circle is 95 cm.
(Calculator)
Work out the diameter of the circle.
Give your answer correct to 1 decimal place.

8 A stratified sample of 30 students is taken from the 300 students in the table.
Work out how many students should be sampled from Group C.

Group	Students
Group A	120
Group B	90
Group C	90

9 A pyramid has a rectangular base 11 cm by 6 cm and vertical height 12 cm.

Volume of a pyramid = $\frac{1}{3}$ × base area × height

Work out the volume of the pyramid.

10 A spacecraft travels at 6×10^6 km per hour.
It travels for 4.1×10^4 hours at this speed.
Work out how far it travels.
Give your answer in standard form.