Day 226 **B Tier 10-a-day**

1 Simplify fully
(a) $18ab \div 3a$
(b) $12p^2 \div 6p$

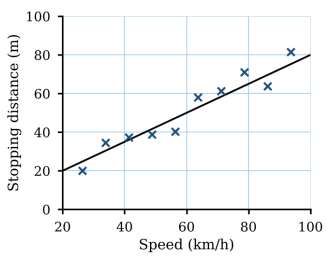
2 A stratified sample of 60 students is taken from the 600 students in the table.
Work out how many students should be sampled from Year 7.

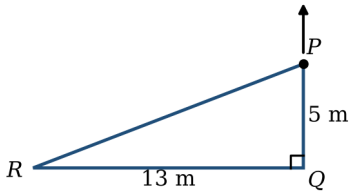
Group	Students
Year 7	120
Year 8	240
Year 9	240

3 A rectangle is 2 m long and 5 m wide.
It is enlarged by scale factor 3.
(a) Write down the length and width of the enlarged rectangle.
(b) Work out the perimeter of the enlarged rectangle.

4 Factorise $121 - y^2$

5 The scatter graph shows information about speed and stopping distance.
A line of best fit is drawn.
(a) Describe the correlation.
(b) Use the line of best fit to estimate the stopping distance when speed is 76.



Day 226	B Tier 10-a-day
6 A new car costs £50,500. (Calculator) Its value falls by 3% each year. Work out its value after 2 years. Give your answer to the nearest pound.	
7 A is the point (0, −5) and B is the point (8, −11). (a) Work out the coordinates of the midpoint of AB. (b) Work out the length of AB.	
8 Sophie bought a laptop for £800 and sold it for £480. Work out the percentage loss.	
9 A boat sails 5 m on a bearing of 180° from P to Q, then 13 m on a bearing of 270° to R. (Calculator) (a) Work out the distance PR. (b) Work out the bearing of R from P. Give your answers correct to 1 decimal place. 	
10 A train travels at 72 km/h. Work out its speed in metres per second.	