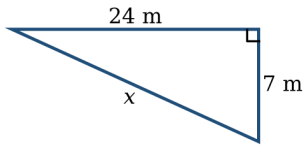
**Day 238** **B Tier 10-a-day**

**1** (a) Convert 12.5 tonnes to kg.
(b) Convert 1.5 $cm^2$ to $mm^2$.

**2** Work out
(a) 337 × 7
(b) 1118 ÷ 13

**3** Work out the length of x.
The diagram is not drawn accurately.




**4** Expand and simplify (x + 7)(x + 5)

**5** Work out
(a) $\frac{3}{7} \times \frac{2}{9}$
(b) $\frac{3}{5} \div \frac{1}{2}$
Give each answer in its simplest form.

| Day 238 | B Tier 10-a-day |
|---|---|
| **6** M is the midpoint of AB.<br>A is the point (−6, −8) and M is the point (−7, −1).<br>Find the coordinates of B. | |
| **7** Two lights flash at 08:00.<br>One light flashes every 12 minutes.<br>The other light flashes every 20 minutes.<br>At what time do both lights next flash together? | |
| **8** Here are the times, in seconds, taken to run 100 m.<br>34, 34, 13, 32, 10, 14, 19, 39<br>(a) Find the median.<br>(b) Work out the range. | |
| **9** The equation $x^3 + 3x = 33$ has a solution between 2 and 3. (Calculator)<br>Use trial and improvement to find this solution.<br>Give your answer correct to 1 decimal place. | |
| **10** 35 pupils were asked.<br>16 of them study French and 19 of them study German.<br>3 of them did both.<br>(a) How many did neither?<br>(b) One is chosen at random. Find the probability that they study French but do not study German. | |