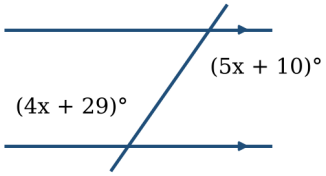
Day 119	A Tier 10-a-day
1 The diagram shows two parallel lines crossed by a straight line. (a) Work out the value of x. (b) Work out the size of the angle marked (5x + 10)°. The diagram is not drawn accurately.  	
2 On a stage, a lighthouse flashes every 15 seconds. A blue beacon flashes every 12 seconds. They flash together at the start. After how many seconds will they next flash together?	
3 Solve $\frac{x-4}{4} + \frac{x+8}{3} = 4$	
4 Aisha spends $\frac{1}{4}$ of the money on a phone case and $\frac{2}{5}$ of the money that is left on headphones. Aisha has £81 left. How much money did Aisha have to begin with?	
5 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 50 frogs. 10 of these are marked. Work out an estimate for the total number of frogs in a pond.	

Day 119 **A Tier 10-a-day**

6 The graph of y = f(x) has a maximum point at (−1, −6).
Write down the coordinates of the turning point of the graph of
(a) y = f(x − 3)
(b) y = f(x) − 2

7 Triangle ABC has vertices A(1, 4), B(4, −8), C(−2, 4).
The triangle is enlarged with scale factor $\frac{1}{3}$ and centre (1, −2).
Write down the coordinates of the vertices of the image.

8 y is inversely proportional to $\sqrt{x}$.
When x = 4, y = 5.
(a) Find a formula for y in terms of x.
(b) Work out the value of y when x = 25.

9 (a) Show that $0.\dot{6}\dot{0} = \frac{20}{33}$
(b) Hence write $5.\dot{6}\dot{0}$ as a mixed number in its simplest form.

10 The table gives information about 47 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 $5 < l \leq 35$.

Length, l (mm)	Frequency
$0 < l \leq 5$	?
$5 < l \leq 35$	12
$35 < l \leq 45$	14
$45 < l \leq 50$	11