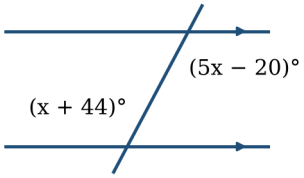
Day 152 **A Tier 10-a-day**

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 − 20)°.
The diagram is not drawn accurately.



2 The table shows information about 20 students.
(a) Work out the mean.
(b) Write down the mode.

Number of siblings	0	1	2	3	4
Frequency	2	1	7	6	4

3 Work out $\sqrt{4 \times 10^{-10}}$
Give your answer in standard form.

4 A regular octagon and a regular hexagon share the side AB and are on opposite sides of it.
The two shapes meet at the point A.
Work out the size of the angle at A that is not inside either shape.

5 11 pumps take 6 hours to empty a pond.
All the pumps work at the same rate.
How long would it take 3 pumps to empty a pond?

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6 A rectangle has width x cm and length (x + 7) cm. The area of the rectangle is 98 cm^2. (a) Show that $x^2 + 7x - 98 = 0$ (b) Work out the value of x.	
7 A bag contains red counters and blue counters in the ratio 5 : 4. 14 more red counters are added to the bag. The ratio of red counters to blue counters is now 8 : 5. How many counters were in the bag at the start?	
8 (a) Show that $0.\dot{3}\dot{2} = \frac{32}{99}$ (b) Hence write $5.\dot{3}\dot{2}$ as a mixed number in its simplest form.	
9 Work out $(6.5 \times 10^{-2}) - (2.4 \times 10^{-3})$ Give your answer in standard form.	
10 Make x the subject of $y = \frac{3x + 6}{x - 4}$	