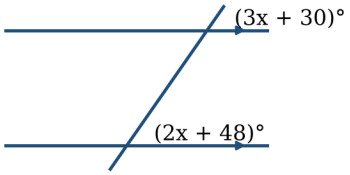
Day 7 **A Tier 10-a-day**

1 $s = ut + \frac{1}{2}at^2$

Work out the value of s when u = 8, a = 6 and t = 6

2 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 (3x + 30)°.
The diagram is not drawn accurately.



3 The stem and leaf diagram shows the ages of 11 people.
Key: 3 | 0 represents 30 years
(a) Work out the median age.
(b) Work out the interquartile range.

Stem	Leaf
3	0 2 3 4
4	3 4 7
5	2 5
6	2 4

4 (a) Change 9,000 cm^3 to litres.
(b) Change 3,500,000 cm^3 to m^3.

5 A spinner can land on red, blue or green.
P(red) = 0.25 and P(blue) = 0.45.
(a) Work out the probability that it lands on red or blue.
(b) Work out the probability that it lands on green.

Day 7	A Tier 10-a-day
6 Expand and simplify $(1 - \sqrt{7})(2 + 2\sqrt{7})$	
7 A rectangle measures 14 cm by 8 cm, each correct to the nearest cm. (Calculator) Work out the upper bound for the length of a diagonal of the rectangle. Give your answer to 3 significant figures.	
8 A rectangle has width x cm and length (x + 5) cm. The area of the rectangle is 66 cm^2. (a) Show that $x^2 + 5x - 66 = 0$ (b) Work out the value of x.	
9 $f(x) = \frac{x - 4}{6}$ (a) Find $f^{-1}(x)$ (b) Work out $f^{-1}(-2)$	
10 A cyclist travels 190 metres in 17.2 seconds. The distance is correct to the nearest 10 metres and the time to the nearest 0.1 second. (a) Work out the upper bound and the lower bound of the speed in m/s. (b) Write the speed to a suitable degree of accuracy. Give a reason for your answer.	