Day 141 **A Tier 10-a-day**

1 The stem and leaf diagram shows the ages of 15 people.
Key: 3 | 3 represents 33 years
(a) Work out the median age.
(b) Work out the interquartile range.

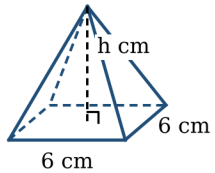
Stem	Leaf
3	3 5 7 8 9
4	4 5 7 8
5	1 2 6 9
6	2 9

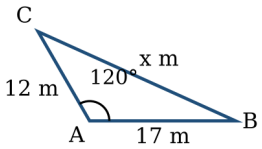
2 PQ is a straight line.
A point T moves so that it is always 5 cm from the line PQ, on one side of it.
Describe the locus of T.

3 Chloe is paid £15.60 per hour for a basic week of 38 hours. (Calculator)
Overtime is paid at double time.
Last week Chloe worked 7 hours of overtime.
Work out Chloe's total pay for the week.

4 Make l the subject of $T = 2\pi\sqrt{\frac{l}{g}}$

5 The diagram shows a pyramid with a square base of side 6 cm.
The volume of the pyramid is 72 cm^3.
Work out the perpendicular height, h, of the pyramid.
The diagram is not drawn accurately.



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6 A bag contains 3 red, 3 blue and 2 green counters. Two counters are taken at random without replacement. Work out the probability that the two counters are the same colour.	
7 Show that $\frac{\sqrt{72}-\sqrt{32}}{\sqrt{2}}$ is an integer, and find its value.	
8 Solve $x^2 = -2x + 24$	
9 Work out the value of x. (Calculator) Give your answer to 3 significant figures. The diagram is not drawn accurately. 	
10 Ben invests £3,000 in a savings account. (Calculator) Compound interest is paid at a fixed rate each year. After 3 years the investment is worth £5,184. Work out the annual rate of interest.	