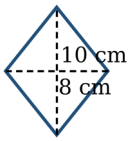
Day 352	A Tier 10-a-day
1 Here are the masses, in kg, of 7 parcels. 37 33 54 8 41 44 23 (a) Work out the median. (b) Work out the interquartile range.	
2 The diagram shows a rhombus. The diagonals are 8 cm and 10 cm and cross at right angles. Work out the area of the rhombus. The diagram is not drawn accurately. 	
3 The probability that Tara wins a game is 0.2. The probability that Isla wins a game is 0.9. The two events are independent. Work out the probability that at least one of them will win a game.	
4 Solve $x^2 \geq 36$	
5 No tax is paid on the first £12,000 of income. Tax of 20% is paid on the next £30,000. Tax of 35% is paid on all income above £42,000. (Calculator) Femi earns £53,000 a year. Work out the income tax paid.	

Day 352 **A Tier 10-a-day**

6 (a) Show that the equation $x^3 + 4x - 28 = 0$ can be rearranged to give $x = \sqrt[3]{28 - 4x}$
(b) Show that the equation has a solution between x = 2 and x = 3

7 The stem and leaf diagram shows the ages of 15 people.
Key: 1 | 2 represents 12 years
(a) Work out the median age.
(b) Work out the interquartile range.

Stem	Leaf
1	2 3 4 7
2	1 5
3	0 3 4 6 7 8 9
4	1 2

8 The value of an investment grows by 20% each year. (Calculator)
After 2 years it is worth £43,200.
Work out its value at the start.

9 Here are the first five terms of a quadratic sequence.
7, 12, 15, 16, 15
(a) Find an expression for the nth term.
(b) Work out the 8th term.

10 Boat P sails 12 km from a harbour on a bearing of 185°.
Boat Q sails 20 km from the same harbour on a bearing of 305°. (Calculator)
Work out the distance between the two boats.
Give your answer to 3 significant figures.