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- 1a. Given $402 + 159 + 73$

$$\begin{array}{r} 12.8 \\ + 0.7 \\ \hline 13.5 \\ \hline 1 \end{array}$$

- b. Given 3.65×100

Simply move point 2 places to the right.

$$365.0 \quad \text{or} \quad 365$$

- c. $\frac{1}{5}$ of 85

$$\begin{array}{r} 17 \\ 5 \overline{)85} \end{array}$$

2. Given 25% of £484

Step 1 : Convert 25% to a fraction $\frac{25}{100} = \frac{1}{4}$

Step 2 : Write £'s to 2 decimal places

$$\frac{1}{4} \text{ of } £484.00$$

$$\begin{array}{r} 121.00 \\ 4 \overline{)484.00} \end{array} = £121.00 \quad \text{or} \quad £121$$

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3. Given Kelly has run 3250m of a 5000m race. She still has to run:

$$\begin{array}{r} {}^45^90^100 \\ - 3250 \\ \hline 1750 \end{array}$$

She still has to run 1750 metres

Car sold for £5799

4. Given video runs for 80 mins and it begins at 7.45pm. It will finish at:

$$\begin{array}{r} 7.45 \\ +0.80 \\ \hline 9.05 \\ 2 \end{array} \quad \text{remember } 45\text{mins} + 80\text{mins} = 120\text{mins} = 2\text{hrs}$$

Video finishes at 9.05pm

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- 5. a** Given the orange juice costs 29p. The cost of 10 is:

$$10 \times 29p = 290p = \text{£}2.90$$

- 5. b** The special pack costs 79p for 3 cartons. Working out the cheapest way to buy 10 cartons we have:

$$4 \times 3 \text{ special packs} = 4 \times 79p = 316p = \text{£}3.16$$

but we could buy

$$\begin{aligned} 3 \times 3 \text{ special packs} + 1 \text{ carton} &= 3 \times 79p + 29p \\ &= 237p + 29p \\ &= 266p \\ &= \text{£}2.66 \end{aligned}$$

Cheapest way to buy 10 cartons is

$$3 \times 3 \text{ special packs} + 1 \text{ carton} = \text{£}2.66$$

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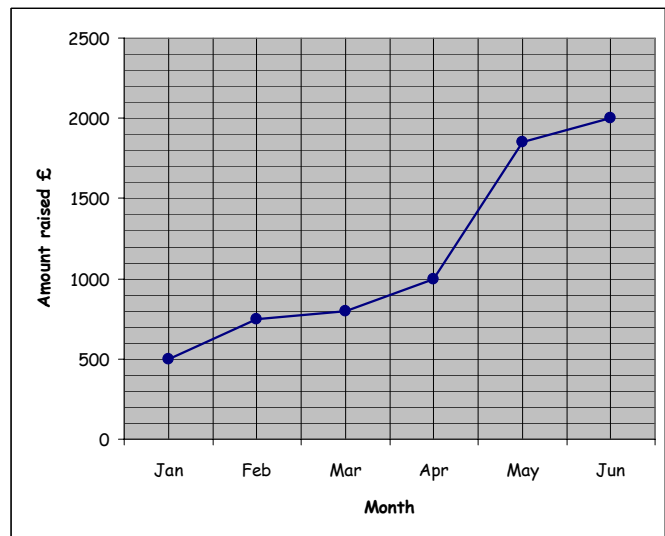
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6.a Given the graph.

By end of Feb £750 was raised.

b. During Feb $£750 - £500 = £250$ was raised.

c. Steepest part of graph is in May therefore most money was raised then.



7. Since we are told that the profit increase in 1997 - 98 is the same in 1998 - 99. We can work out the profit in 1999 by:

$$\begin{array}{r} \text{Increase profit 1997 - 98} \quad 8700 \\ \quad \quad \quad \quad \quad -2000 \\ \hline \quad \quad \quad \quad \quad \pounds 6700 \end{array}$$

$$\begin{array}{r} \text{Profit 1999} \quad 8700 \\ \quad \quad \quad \quad + 6700 \\ \hline \quad \quad \quad \quad \pounds 15400 \\ \quad \quad \quad \quad 1 \end{array}$$

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1. Given that Erin's birthday is one week after the 28th August then his birthday must be on:

28th August → 29th August (1 day)
 29th August → 30th August (2 days)
 30th August → 31th August (3 days)
 31th August → 1th Septemeber (4 days)
 1st September → 2nd September (5 days)
 2nd September → 3rd September (6 days)
 4th September → (7 days)

Birthday is on 4th September.

2. (a) Given the pattern we can complete then the table by adding on 5 each time.

Pattern Number	1	2	3	4	5	6		11
Number of matchsticks	6	11	16	21	26	31		56

- (b) Steps for working out the rule:

1. Difference is 5
2. Part of rule is 5P
3. Correction factor, so that the rule works is, add on 1

$$3 \times 5 + 1 = 16$$

Full rule is: $M = 5P + 1$

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3. Given the washing machine usually costs £399. With a reduction of 15% gives a new price of:

Using the calculator we have

$$\frac{15}{100} \times £399 = £59.85 \text{ (divide by botttom number multiply by the top number)}$$

$$\begin{array}{r} \text{New cost} \quad 3^8 9^8 9.^9 0^1 0 \\ - \quad 5 \quad 9.8 \quad 5 \\ \hline \pounds 3 \quad 3 \quad 9.1 \quad 5 \end{array}$$

OR

$$\begin{array}{rcl} 10\% & \rightarrow & \pounds 39.90 \\ 5\% & \rightarrow & \pounds 19.95 \\ \hline 15\% & \rightarrow & \pounds 59.85 \end{array} \quad \text{Discount } \pounds 59.85$$

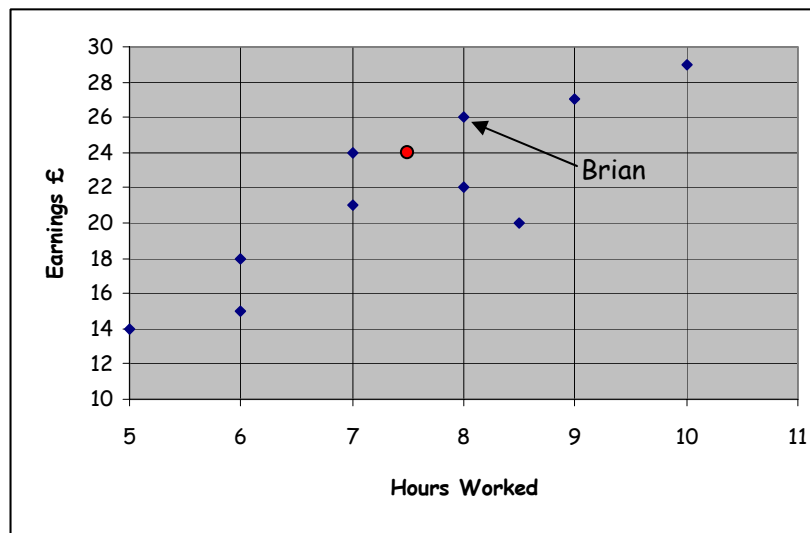
$$\begin{array}{r} \text{New cost} \quad 3^8 9^8 9.^9 0^1 0 \\ - \quad 5 \quad 9.8 \quad 5 \\ \hline \pounds 3 \quad 3 \quad 9.1 \quad 5 \end{array}$$

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4. (a) From graph Brian works 8 hours and earnings £26.



- (b) Given Jade works:
 $7\frac{1}{2}$ hours and gets paid £3.20 per hour

Her total wage is

$$\begin{array}{r}
 3.20 \\
 \times 7 \\
 \hline
 22.40 \\
 1
 \end{array}$$

$$\begin{array}{r}
 22.40 \\
 + 1.60 \\
 \hline
 24.00 \\
 1
 \end{array}$$

Total wage is £24. See dot on graph.

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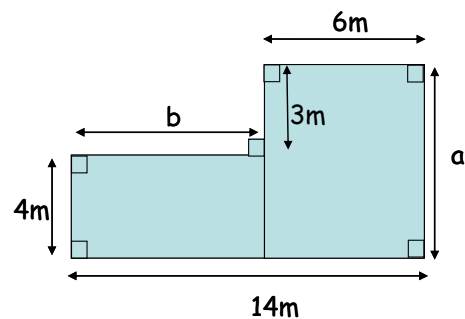
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5. Given the three different dice, a further possible 5 ways of getting 15 (there are more!!!) are:

Dice 1	Dice 2	Dice 3
6	6	3
6	5	4
5	6	4
5	5	5
5	4	6
4	5	6
4	6	5
3	6	6

6. Given the plan we have:

(a) $a = 4\text{m} + 3\text{m} = 7\text{m}$
 $b = 14\text{m} - 6\text{m} = 8\text{m}$



- (b) The perimeter is:

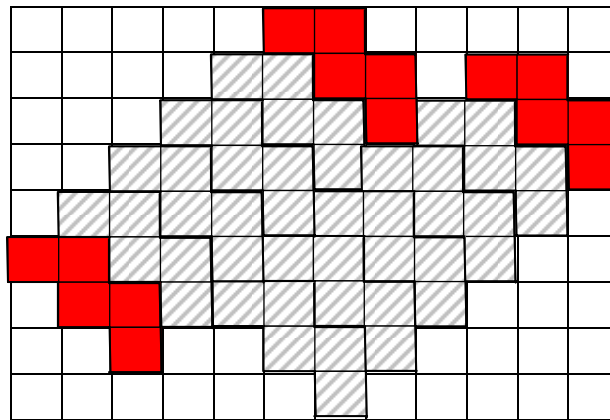
$$4\text{m} + 8\text{m} + 3\text{m} + 6\text{m} + 7\text{m} + 14\text{m} = 42\text{m}$$

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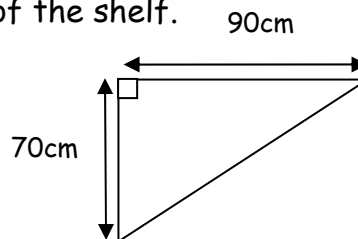
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7. Continuing the pattern we get:



8. Given the diagram of the shelf.



The area is:

$$\begin{aligned} \text{Area} &= \frac{1}{2} \times \text{base} \times \text{height} \\ &= \frac{1}{2} \times 90 \times 70 \\ &= 45 \times 70 \end{aligned}$$

$$\begin{array}{r} 450 \\ \times 7 \\ \hline 3150 \\ \hline 3 \end{array} \quad \text{Area is } 3150\text{cm}^2$$

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9. Given the numbers:

24, 25, 27, 29, 30, 30, 31

(a) The mode is the number that appears most often 30.

(b) The mean is:

(Add up all the numbers and divide by how many numbers there are)

24

25

27

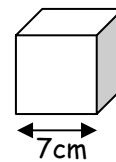
29

30

30

$$\begin{array}{r} +31 \\ 196 \\ \hline 2 \end{array}$$

$$7 \overline{)1956} \quad \begin{array}{r} 28 \\ \hline \end{array} \quad \text{mean is 28}$$



10. Given a cube with length 7cm.

Volume = length x breadth x height

$$\begin{aligned} &= 7 \times 7 \times 7 \\ &= 49 \times 7 \end{aligned}$$

49

$$\begin{array}{r} \times 7 \\ 343 \\ \hline 6 \end{array}$$

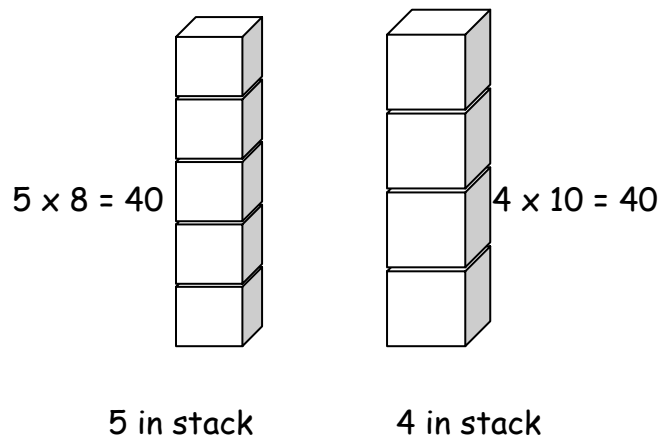
volume is 343cm³

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10. Given cubes of 8cm and cubes of 10cm. Both will be equal height when:



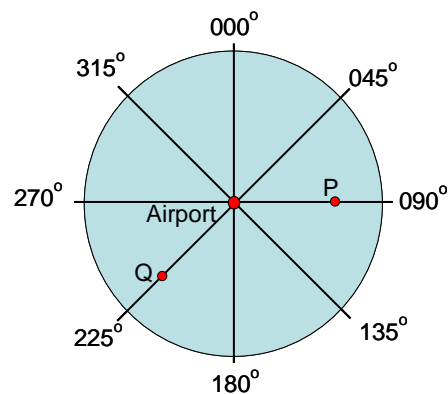
11. Given each cup holds 200ml of tea and we have 1.8litres of water we can make:

$$1.8 \text{ litres} = 1800\text{ml} \quad (\text{multiply by a } 1000)$$

$$1800 \div 200 = 18 \div 2 = 9 \quad 9 \text{ cups of tea can be made.}$$

12. Given diagram:

- (a) From diagram Q has a bearing of 225° from the airport.



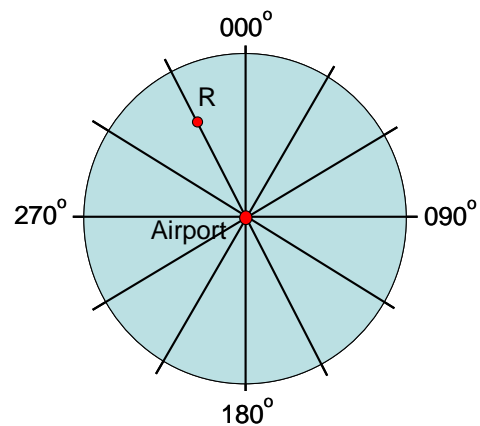
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12. (b) Given the diagram and the lines are equally spaced out, then R has a bearing of:

$$270^\circ + 30^\circ + 30^\circ = 330^\circ$$



13. Given sports ground is 12km away and lorry can deliver 30 bags. To deliver 100 bags and return to the yard the lorry has to travel a total of:

$$100 \div 30 = 10 \div 3 = 3 \frac{3.3}{10.0} \text{ has to do 4 complete trips}$$

Each trip is total of 24 km

Total distance is 24

$$\begin{array}{r} \times 4 \\ 96 \\ \hline 1 \end{array} \quad \text{Total trip 96km}$$