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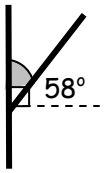
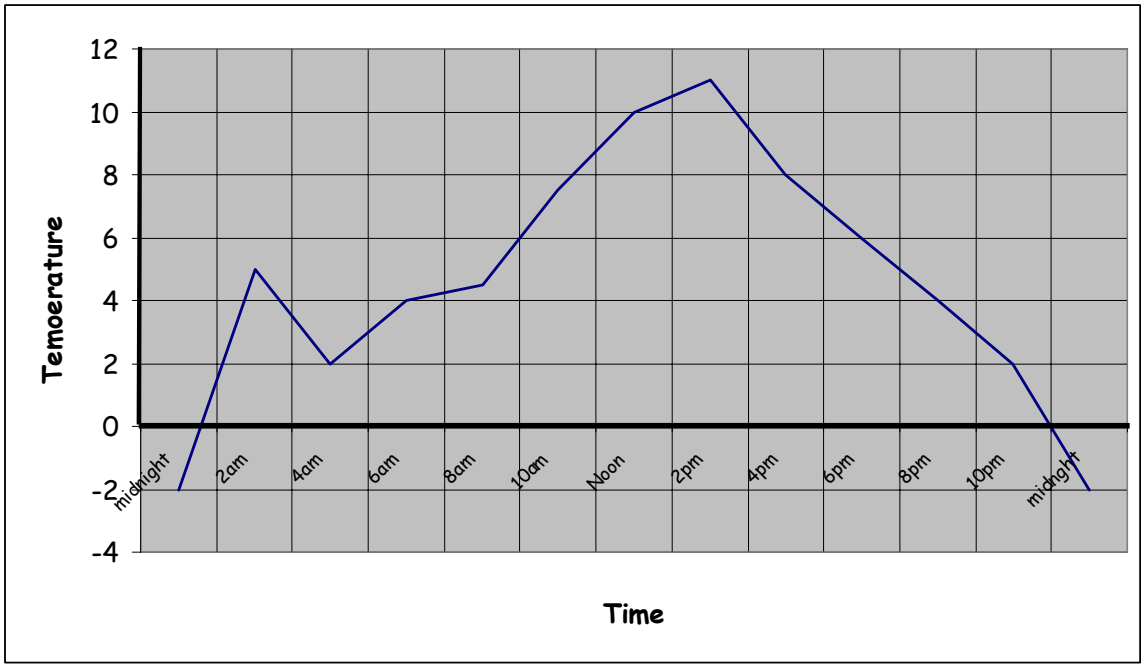
1. Given the diagram of the raised bridge. The shaded area is equal to:

$$90° - 58° = 32°$$



2. Given the graph.



(a) The temperature at 2am is -3°C.

(b) The temperature between 2pm and 10 pm was falling.

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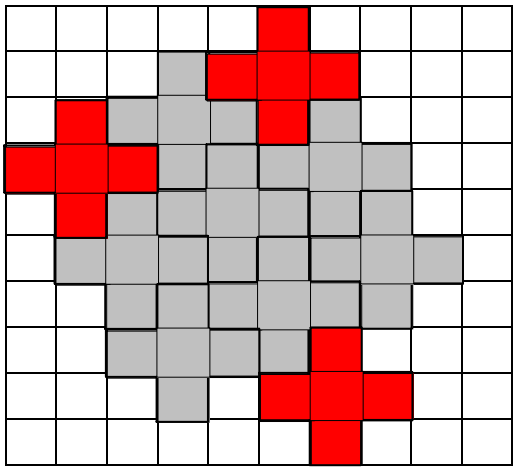
3. Continuing the pattern we get:



4. Given the table:

Day	Eggs
Monday	24
Tuesday	26
Wednesday	20
Thursday	21
Friday	24
Saturday	22
Sunday	24
Total	161

(a) The mode is the number that appears most often 24.

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4. (b) The mean is:

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

$$7\overline{)16^{2}1} \qquad 2\ 3$$

mean is 23

5. Given that the 3 figure code for the bicycle lock must add up to 12 and we can pick from 2, 3, 4 or 5. Then 5 other possibilities are (there are a more!!!)

Fig. 1	Fig. 2	Fig. 3
3	5	4
5	2	5
2	5	5
3	4	5
4	5	3
4	4	4
5	5	2
5	3	4

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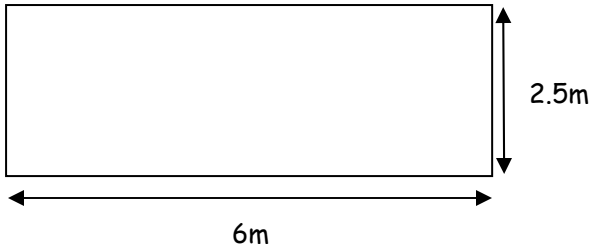
6. Give the plan of the lawn:



(a) The area of the lawn is :

Area = length x breadth

$$= \begin{array}{r} 2.5 \\ \times\ 6 \\ \hline 15.0 \\ \hline 3 \end{array}$$

Area is $15m^2$

(b) If we need 50g of lawn seed for each square metre. Then 1kg can do:

1kg = 1000g

$1000 \div 50 = 100 \div 5 = 5\overline{)100}$ $\quad\begin{array}{r}20\\ \\ \\ \\ \end{array}$ 20m

Since we only need enough for 15m (Part A above)
Sunita has bought enough lawn seed.

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7. Given Gerry gets £23.60 for 5 hours work. Then:

For a hours work he will get $5\overline{)23.^{3}6^{1}0}$ $\begin{array}{r}4.72\end{array}$ 4.72 per hour.

For 8 hours he will get:

$$\begin{array}{r} 4.72 \\ \times\ 8 \\ \hline 37.76 \\ \hline 5\ 1 \end{array}$$ £37.76

8. Given the diagram for the block of flats. We can complete the table by adding on 3 each time.

Floor Number	1	2	3	4	5	6		11
Height of lift above ground	4	7	10	13	16	19		34

(b) Steps for working out the rule:

3 x 4 + 1 = 13

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

Full rule is: H = 3F + 1

9. (a) Given a teacher can supervise no more than 12 pupils. On a trip with 30 pupils then:

30 ÷ 12 = 2.5 3 teachers are needed

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9. (b) Give the maximum number of seats is 50. The maximum number of teachers and pupils who can go is:

A group is made up of 1 teacher + 12 pupils = 13

$$\begin{array}{r} 13 \\ \times 4 \\ \hline 52 \\ \hline 1 \end{array}$$

52 is to many so we need to take off to pupils

Maximum amount is 4 teachers and 46 pupils.

10. Given Joe buys 2 small balloons for £3.20 each and some large balloons for £4.90. Since he spent £26 in total, he must have bought:

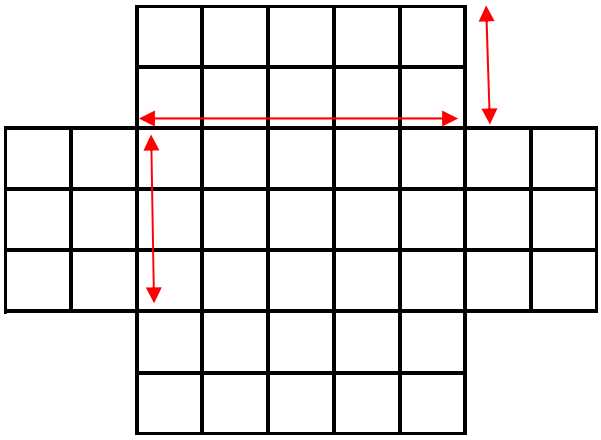
2 x £3.20 = £6.40

$$\begin{array}{r} {}^{1}2{}^{5}6.{}^{1}00 \\ -\ \ 6.\,40 \\ \hline 1\,9.\,60 \end{array}$$

Usingthe calculator
19.60 ÷ 4.90 = 4

Hence Joe bought 4 large balloons

11. Given the net of the cuboid below:



(a) Length is 5cm Breadth is 3cm Height 2cm

(b) The volume is:

Volume = length x breadth x height
= 5 x 3 x 2
= 15 x 2
= $30cm^3$

12. Completing the Electricity bill using a calculator we get:

Northern Electric

950 units at 6p per unit	=	£57.00
VAT at 5%	=	£ 2.85
Total	=	£59.85

Working for question

$$\begin{array}{r} 950 \\ \times\ 6 \\ \hline 5700 \\ \hline 3 \end{array}$$ 5700p or £57

5% of 57.00

1% → 57p

5% → 57

$$\begin{array}{r} \times 5 \\ \hline 285 \\ \hline 3 \end{array}$$ VAT 285p or £2.85

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13. Given the bank rule:

Price = (3.5 x annual salary) + Deposit

(a) Given Alison earns an annual salary of £23 000 and has a deposit of £5000. She will be able to afford a house valued at:

Price = (3.5 x 23 000) + 5 000

= 80 500 + 5 000

= £85 500

(b) To buy a house at £82 500 when Emma has a salary of £21 400 she will need a deposit of:

Price = (3.5 x annual salary) + Deposit

£82 500 = (3.5 x 21 400) + Deposit

£82 500 = 74 900 + Deposit

Deposit = £82 500 - £74 900

Deposit = £ 7 600

14. Given the table on how far Lucy's car can travel on 1 gallon of petrol.

Speed	Distance travelled on 1 gallon of petrol
55 miles per hour	50 miles
70 miles per hour	40 miles

(a) Travelling at 70 miles per hour on 10 gallons of petrol. You would travel a distance of:

Distance = 10 x 40 = 400 miles

(b) Travelling at 55 miles per hour on 10 gallons of petrol. You would travel a distance of:

Distance = 10 x 50 = 500 miles

Lucy's car would travel an extra 100 miles travelling at 55 miles per hour.