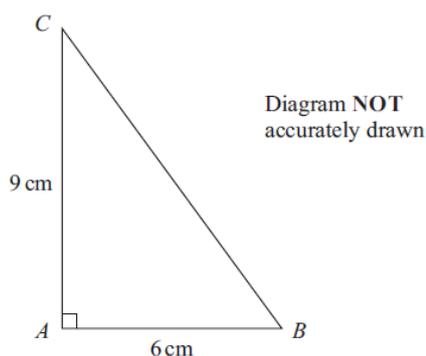


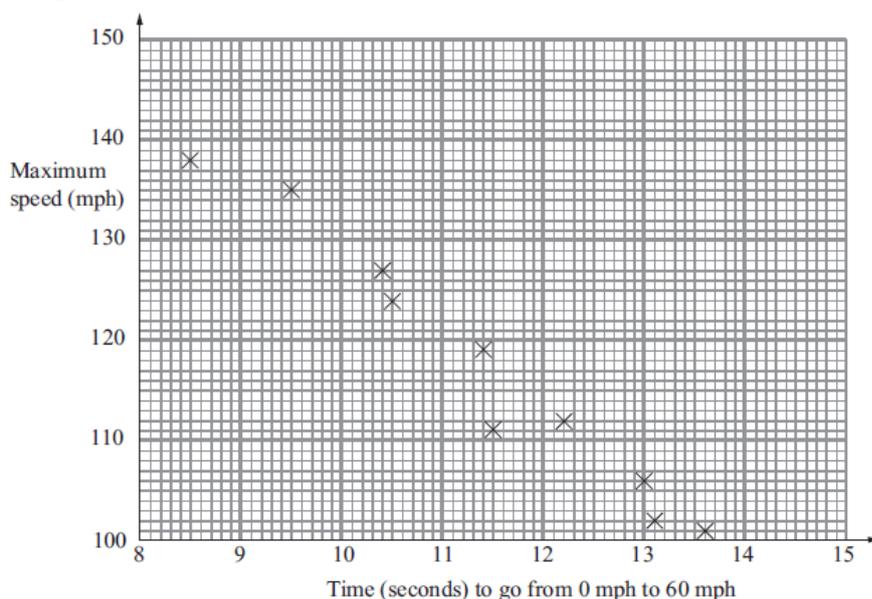
End of Year 10 revision sheet
Calculator

- Eric travels from the UK to India every year. In 2010, the exchange rate was $\text{£}1 = 67.1$ rupees. In 2012, the exchange rate was $\text{£}1 = 82.5$ rupees. In 2010 Eric changed $\text{£}600$ into rupees. How many pounds (£) did Eric have to change to rupees in 2012 to get the same number of rupees as he did in 2010?
- Ali is planning a party. He wants to buy some cakes and some sausage rolls. The cakes are sold in boxes. There are 12 cakes in each box. Each box of cakes costs $\text{£}2.50$. The sausage rolls are sold in packs. There are 8 sausage rolls in each pack. Each pack of sausage rolls costs $\text{£}1.20$. Ali wants to buy more than 60 cakes and more than 60 sausage rolls. He wants to buy exactly the same number of cakes as sausage rolls. What is the least amount of money Ali will have to pay?



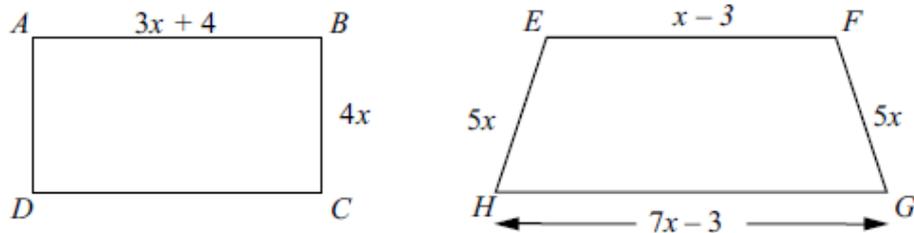
ABC is a right-angled triangle. $AB = 6$ cm. $AC = 9$ cm. Work out the length of BC . Give your answer correct to 3 significant figures.

- The scatter graph shows some information about 10 cars. It shows the time, in seconds, it takes each car to go from 0 mph to 60 mph. For each car, it also shows the maximum speed, in mph.



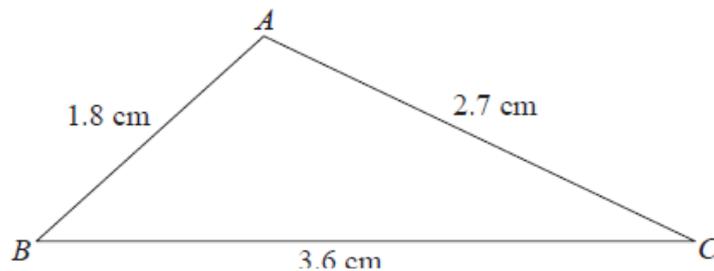
- What type of correlation does this scatter graph show?
 The time a car takes to go from 0 mph to 60 mph is 11 seconds.
- Estimate the maximum speed for this car.

5. A town has three car parks. South car park has x spaces. North car park has 48 more spaces than South car park. Central car park has four times as many spaces as South car park. The total number of spaces in South car park and Central car park is more than twice the number of spaces in North car park. Work out the least possible number of spaces in South car park.
6. $ABCD$ is a rectangle.
 $EFGH$ is a trapezium.



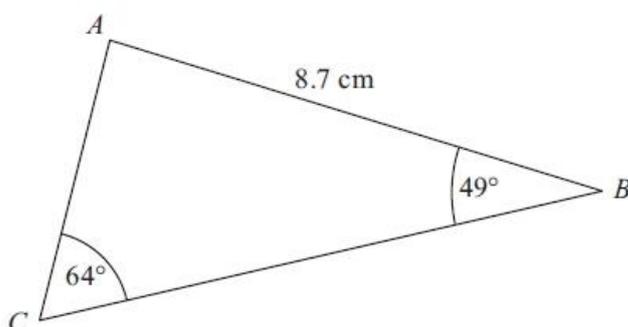
The perimeters of these two shapes are the same. All measurements are in centimetres.

- (i) Work out the value of x .
 (ii) Write down the length and the width of the rectangle.
7. Solve
$$\begin{aligned} x + 2y &= 3 \\ x - y &= 6 \end{aligned}$$
8. Colin, Dave and Emma share some money. Colin gets $\frac{3}{10}$ of the money. Emma and Dave share the rest of the money in the ratio 3 : 2. What is Dave's share of the money?
9. The n th term of a sequence is $n^2 + 4$. Alex says "The n th term of the sequence is always a prime number when n is an odd number." Alex is wrong. Give an example to show that Alex is wrong.
10. The diagram shows a triangle ABC .



- (a) Work out the size of angle A . Give your answer correct to 1 decimal place.
 (b) Work out the area of triangle ABC . Give your answer correct to 1 decimal place.

11.



ABC is a triangle.

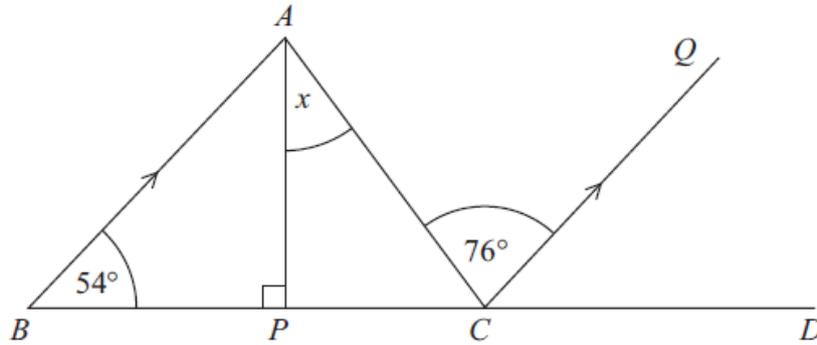
$AB = 8.7$ cm.

Angle $ABC = 49^\circ$.

Angle $ACB = 64^\circ$.

Calculate the area of triangle ABC .

12.



$BPCD$ is a straight line. BA is parallel to CQ . AP is perpendicular to BC . Angle $ABC = 54^\circ$
 Angle $ACQ = 76^\circ$ Work out the size of the angle marked x . Give reasons for your answer.

13. Jenny is organising a party. She buys some paper plates and some plastic cups. Paper plates are sold in packs. There are 25 plates in a pack. Each pack costs 78p. Plastic cups are sold in packs. There are 35 cups in a pack. Each pack costs £1.10. Jenny buys exactly the same number of plates and cups. What is the least amount of money she pays?

14. There are only red beads and green beads in a bag.
 The ratio of the number of red beads to the number of green beads is 5 : 9
 (a) What fraction of the beads are red?

(b) There is a total of 84 beads in the bag. How many of the beads are green?

Susie is going to put some more beads in the bag. There will still be only red beads and green beads in the bag. Susie wants to have twice as many green beads as red beads in the bag.

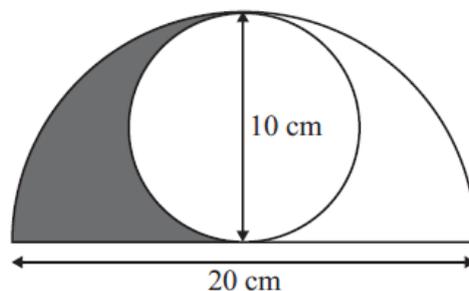
(c) What beads should she put in the bag? You must explain your answer.

15. The table shows some information about the average adult spending in 2008 as a percentage of average **total** adult spending in 2008.

Item	Percentage
food	11%
housing	11%
leisure	13%
clothes	5%
transport	14%
household goods	8%
other items	38%

In May 2008, Katie spent a total of £425. She spent £48.45 of the £425 on food. Compare the percentage that Katie spent on food with the average adult spending on food.

16. The diagram shows a circle inside a semicircle.



The circle has a diameter of 10 cm. The semicircle has a diameter of 20 cm. Work out the area shaded. Give your answer correct to 1 decimal place.

17. Ali was asked to solve the equation $6x - 2 = 3(x + 4)$
Here is his working.

$$6x - 2 = 3(x + 4)$$

$$6x - 2 = 3x + 7$$

$$6x = 3x + 9$$

$$3x = 9$$

$$x = 3$$

Asif's answer is wrong. What mistake did he make?

18. Sam invests £5000 at 2.8% per annum compound interest for 4 years.

(a) Work out the value of Sam's investment at the end of 4 years.

Andy invests £12 000 in a variable rate compound interest account.

The interest is

2% for the first year

3.5% for the second year

5% for the third year

(b) Work out the value of Andy's investment at the end of 3 years.

19. A rectangular lawn has a length of $3x$ metres and a width of $2x$ metres. The lawn has a path of width 1 metre on three of its sides. The total area of the lawn and the path is 100 m^2 .

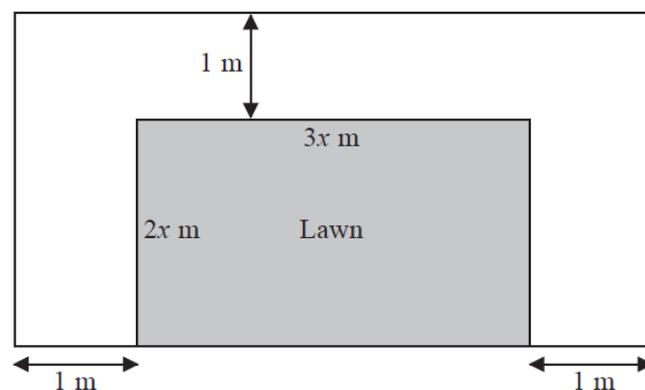


Diagram NOT accurately drawn

(a) Show that $6x^2 + 7x - 98 = 0$

(b) Calculate the area of the lawn. Show clear algebraic working.

20. (a) Complete the table of values for $y = x^2 - 4x - 2$

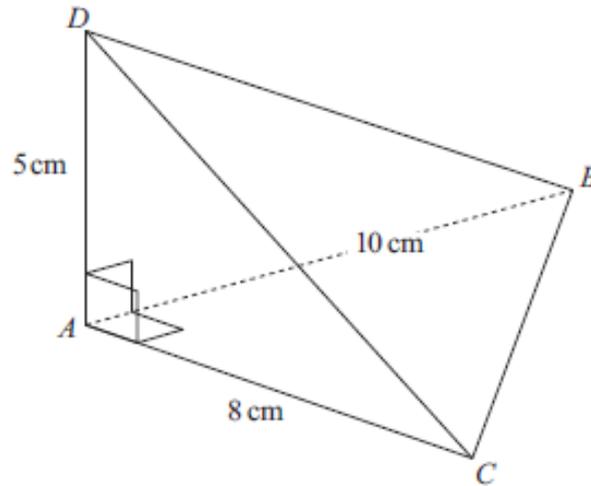
x	-1	0	1	2	3	4	5
y		-2	-5			-2	3

(b) Draw the graph of $y = x^2 - 4x - 2$

(c) Use your graph to estimate the values of x when $y = -3$

21. In a sale, normal prices are reduced by 12%. The sale price of a digital camera is £132.88
Work out the normal price of the digital camera.

22.



The diagram shows a tetrahedron. AD is perpendicular to both AB and AC .

$AB = 10$ cm.

$AC = 8$ cm.

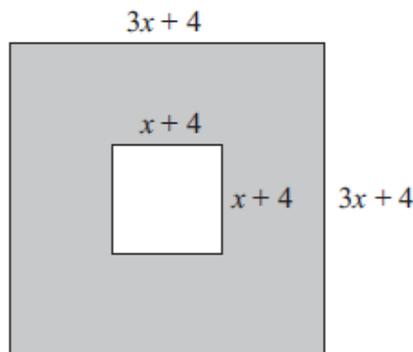
$AD = 5$ cm.

Angle $BAC = 90^\circ$.

a. Calculate the size of angle BDC . Give your answer correct to 1 decimal place.

b. Calculate the volume of the tetrahedron. Answers to 1 d.p.

23. A machine part is made by cutting a small square from the centre of a large square piece of steel. The dimensions of the machine part are shown on the diagram. All measurements are in cm.



The perimeter of the small square is two thirds of the perimeter of the large square. Work out the length of a side of the small square.

24. The area of an equilateral triangle is 36 cm^2 . Find the length of its sides. Give your answer correct to 3 significant figures.

25. Calculate the a. perimeter and b. the area of the sector below.

