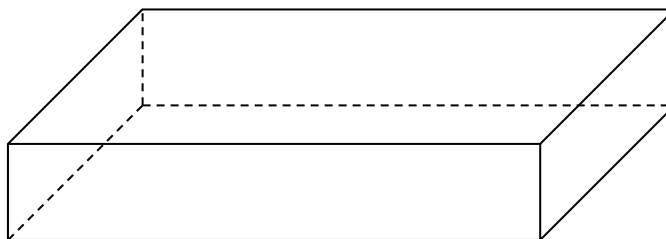


OCR Practice GCSE Examination Paper Foundation Set 4 Paper 1 Calculator	Time: 1 hour 30 minutes	Set 4 of 10
	Standard equipment: pen, pencil, ruler, protractor, compasses, calculator. You may use a calculator.	
Instructions to candidates: You must show all of your working. Write all answers in the spaces provided.		

1. (a) (i) Write down the name of the following 3D shape.



_____ (1)

- (ii) How many vertices does the shape have?

_____ (1)

- (b) Sketch an isosceles triangle.
On your sketch, label any sides that are equal and any angles that are equal.

(1)

- (c) One of the angles in an isosceles triangle is 100° .

Work out the size of the other angles in the triangle.
You must state your reasoning.

_____ $^\circ$ (3)

Total 6 Marks

2. (a) Round 69,472 correct to

(i) the nearest 100.

_____ (1)

(ii) the nearest 1000.

_____ (1)

(b) (i) Write 0.0000763 in standard form.

_____ (1)

(ii) Write 3.4×10^5 as an ordinary number.

_____ (1)

(c) The speed of a cheetah, c , is 116.7 km/h correct to 1 decimal place.

Write down the error interval for c .

Give your answer in the form $\dots \leq c < \dots$

_____ (2)

(d) Work out $\sqrt[4]{16} \times \sqrt[3]{125}$.

_____ (3)

Total 9 Marks

3. (a) List the following fractions in size order. Start with the smallest.

$$\frac{3}{4} \quad \frac{5}{8} \quad \frac{1}{2} \quad \frac{7}{8}$$

_____ (2)

- (b) Write down

- (i) a **fraction** between 0.2 and 0.3.

_____ (1)

- (ii) a **percentage** between $\frac{1}{5}$ and $\frac{2}{5}$.

_____ (2)

Total 5 Marks

4. In Scotland it is expected that 1 in 10 people will be born with red hair.
57,000 babies were born in Scotland in 2014.

How many of these babies are expected to have red hair?

_____ (2)

Total 2 Marks

5. What is three-quarters of 7 hours?
Give your answer in minutes.

_____ minutes (3)

Total 3 Marks

6. (a) Sanum goes to a post office.
She buys

7 identical stamps
2 envelopes at 13p each
1 roll of brown packing paper for £1.98

Sanum pays using a £10 note.
She gets £4.47 change.

How much did each stamp cost?

£ _____ (4)

- (b) 5 bags of rice and 3 bags of pasta weighs 2,330 g.
7 bags of pasta weighs 945 g.

Work out the weight of one bag of rice.

_____ g (5)

Total 9 Marks

7. Poppy is buying fabric to make curtains for her flat.
Fabric is sold at £1.30 per metre.
Poppy spends exactly £18 on fabric.

Work out how many metres of fabric Poppy bought.
Give your answer correct to 2 decimal places.

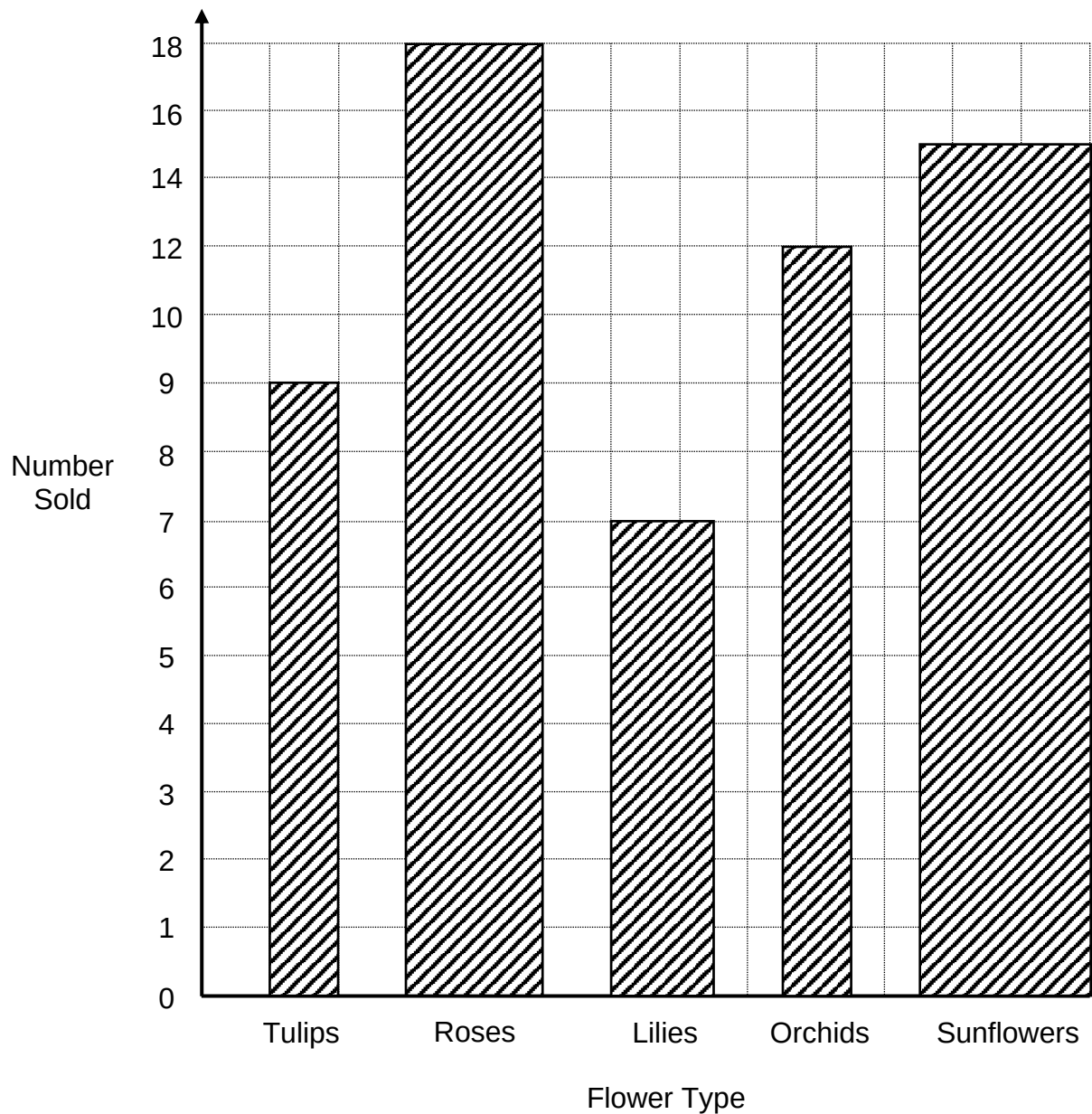
_____ m (2)

Total 2 Marks

8. The table shows the number of different types of flowers sold by a florist in one day.

	Tulips	Roses	Lilies	Orchids	Sunflowers
Number sold	9	18	7	12	15

This information is used to draw a bar chart.



State **two** reasons why this bar chart is misleading.

Reason 1:

Reason 2:

(2)

Total 2 Marks

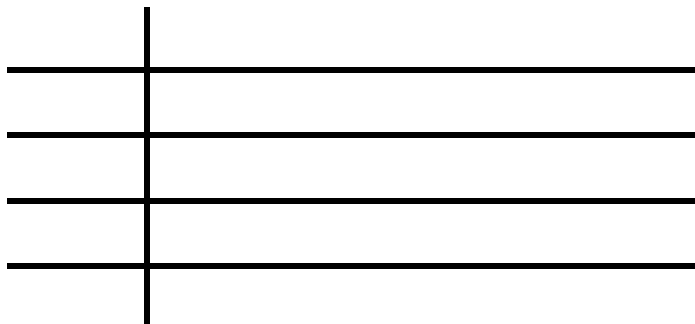
9. Here are the results of a science test for a class of 15 students.

42	48	39	68	71
55	60	72	34	59
47	39	67	45	52

(a) Show this information in a stem and leaf diagram.

Create the diagram on the outline.

(3)



If a student scored less than 47 marks they have to resit the test.

A student is picked at random from the class.

(b) What is the probability that this student will have to resit the test?

(2)

Total 5 Marks

10. (a) Adam is 3 times as old as Brandon.

Brandon is 4 years older than Carmen.

The sum of the ages of Adam, Brandon and Carmen is 61.

How old are Adam, Brandon and Carmen?

Adam: _____ years old

Brandon: _____ years old

Carmen: _____ years old (4)

- (b) Simon is thinking of three whole numbers.
The sum of the three numbers is 54.
The first number is a square number between 10 and 40.
The second number is $\frac{1}{3}$ of the first number.

Work out the value of the three numbers.

_____ (3)

Total 7 Marks

11. (a) Anna is buying stationery for her office.
Pens are sold in packs of 12.
Pencils are sold in packs of 16.
Anna wants to buy the same number of pens and pencils.

What is the smallest number of packs of each that Anna can buy?

_____ (4)

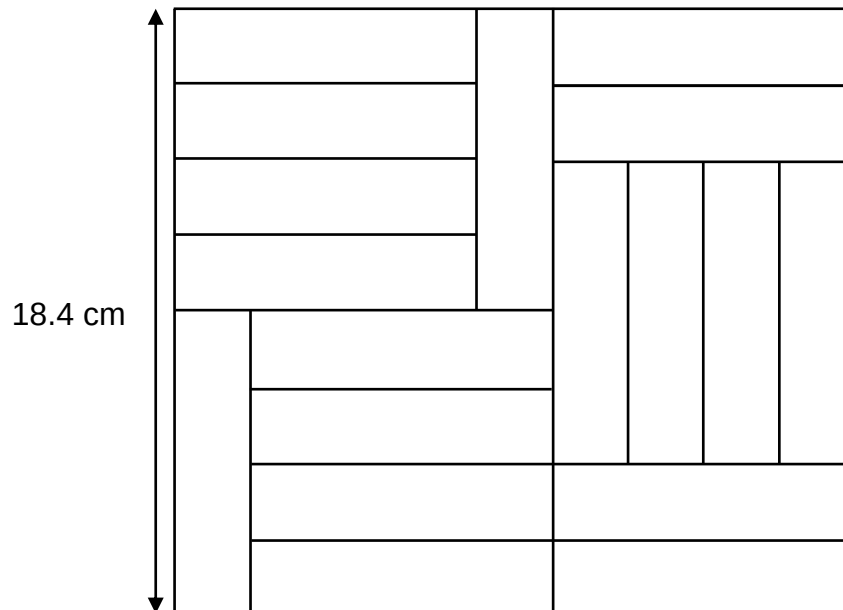
- (b) Edward is buying light bulbs for his office.
He needs 27 light bulbs in total.
Shop A sells light bulbs for £7.50 for a pack of 9.
Shop B sells light bulbs for 99p each.
The lightbulbs at Shop B are on a “two for the price of one” offer.

How much cheaper is it for Edward to buy the light bulbs from Shop B instead of Shop A?

£ _____ (5)

Total 9 Marks

12. 18 identical rectangles are used to form the shape in the diagram below.



Work out the area of the shape.

_____ cm² (4)

Total 4 Marks

13. In May, André had £15,000 in his bank account that pays no interest.
 He put some money into his bank account each week.
 By the end of July, the amount that André had in his bank account had increased by 20%.
 At the beginning of August, André spent 13.5% of the money in his bank account on a new car.
 He did not put any money into his bank account during August.

(a) Work out how much André spent on his new car.

£ _____ (3)

- (b) What is the overall percentage increase in the amount of money in André's bank account from May to the end of August?

_____ % (5)

Total 8 Marks

14. (a) Alice makes pale blue paint by mixing blue paint and white paint in the ratio 4 : 5.

The blue paint costs £7.80 per litre.

The white paint costs £4.20 per litre.

Alice sells her pale blue paint in 3 litre tins for £23 per tin.

Work out how much profit Alice will make if she sells 5 tins.

£ _____ (4)

- (b) Alice also sells 5 litre tins of pale blue paint.
As an offer, Alice reduces the price of a 5 litre tin by 30%.
The normal price of a 5 litre tin is reduced by £8.40.

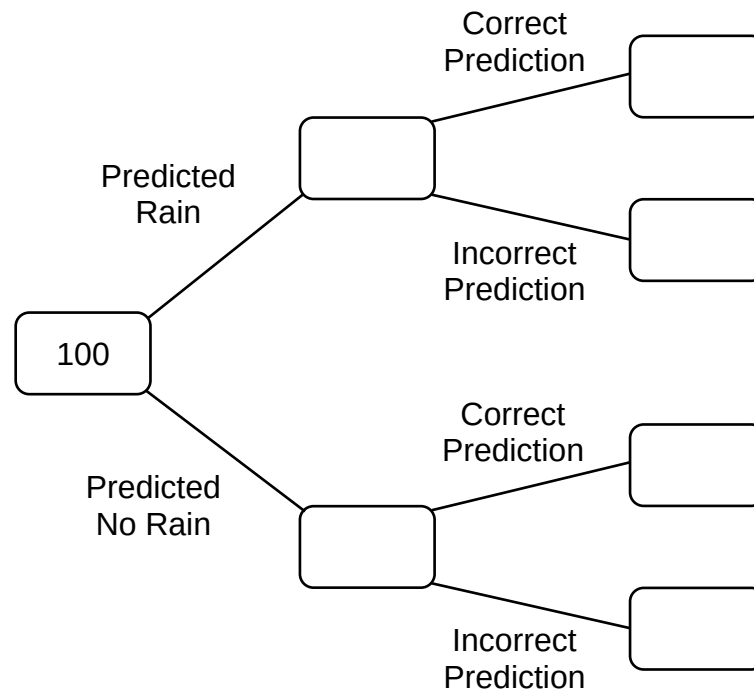
Work out the normal price of a 5 litre tin of pale blue paint.

£ _____ (2)

Total 6 Marks

15. 100 people in different towns predicted whether it would rain in their town the next day.
 68 people predicted that it would rain.
 Out of the people who predicted it would rain, 53 were correct.
 Overall, 81 people predicted the result correctly.

Using this information, complete the frequency diagram below.



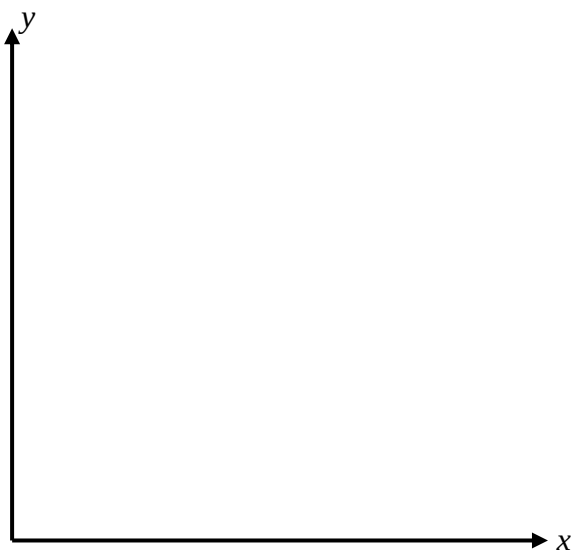
Total 4 Marks

16. Expand and simplify $(x+4)(x-3)$

(2)

Total 2 Marks

17. Sketch a graph which shows that y is inversely proportional to x .



Total 2 Marks

18. Shop A and Shop B are two coffee shops.
The table shows information about the profit and number of sales of each shop in 2008 and 2015.

	Shop A		Shop B	
Year	Profit (£)	Number of Sales	Profit (£)	Number of Sales
2008	120,000	180,000	130,000	170,000
2015	150,000	100,000	110,000	125,000

- (a) Work out the percentage decrease in the number of sales from 2008 to 2015 for Shop B.
Give your answer correct to 1 decimal place.

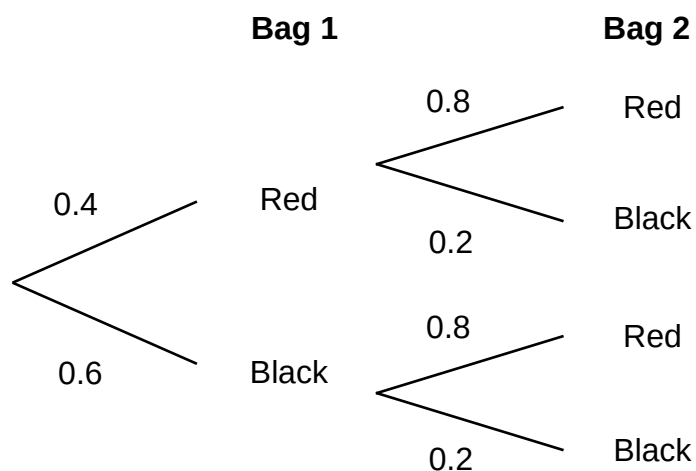
_____ % (3)

- (b) Which shop, A or B, had the most profit per sale in 2015?
You must show all of your working.

_____ (3)

Total 6 Marks

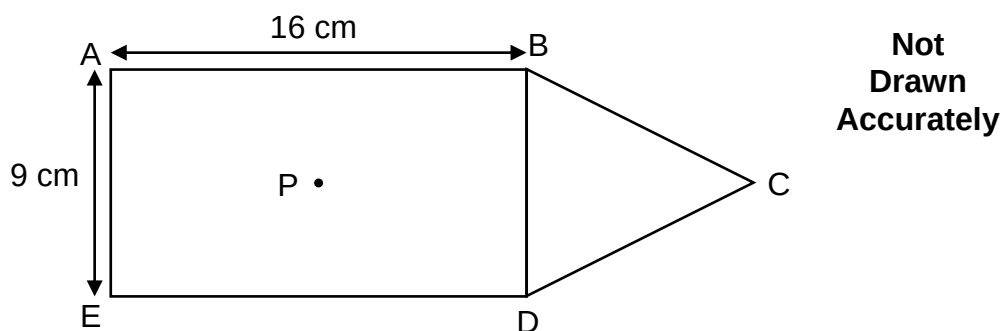
19. Emma has two bags of counters.
Each bag contains different numbers of red and black counters.
Emma takes one counter out of each bag at random.
Here is the probability tree diagram.



Work out the probability that Emma picked the same colour counter out of each bag.

_____ (4)
Total 4 Marks

20.

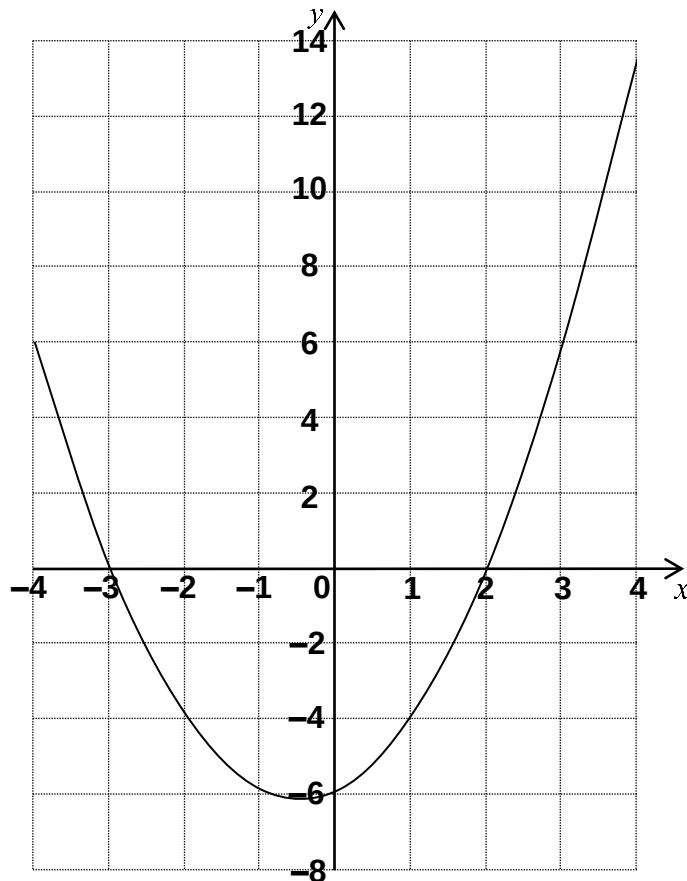


ABDE is a rectangle.
P is at the centre of the rectangle.
 $AB = PC$
BD bisects PC.

Work out the area of triangle BCD.

_____ cm^2 (3)
Total 3 Marks

21. Here is the graph of $y = x^2 + x - 6$.



(a) Draw the graph of $y = 6$.
Draw your graph for all values of x from -4 to 4 . (1)

(b) Using your graph, or otherwise, solve $x^2 + x - 6 = 6$

$x =$ _____ (1)

Total 2 Marks

Total For Paper: 100 Marks