

Pre Public Examination
November 2016
GCSE Mathematics (AQA style)

Foundation Tier
Paper 1F

Name

Class

TIME ALLOWED

1 hour 30 minutes

INSTRUCTIONS TO CANDIDATES

- Answer **all** the questions.
- Read each question carefully. Make sure you know what you have to do before starting your answer.
- You are **NOT** permitted to use a calculator in this paper.
- Do all rough work in this book.

INFORMATION FOR CANDIDATES

- The number of marks is given in brackets [] at the end of each question or part question on the Question Paper.
- **You are reminded of the need for clear presentation in your answers.**
- The total number of marks for this paper is **80**.

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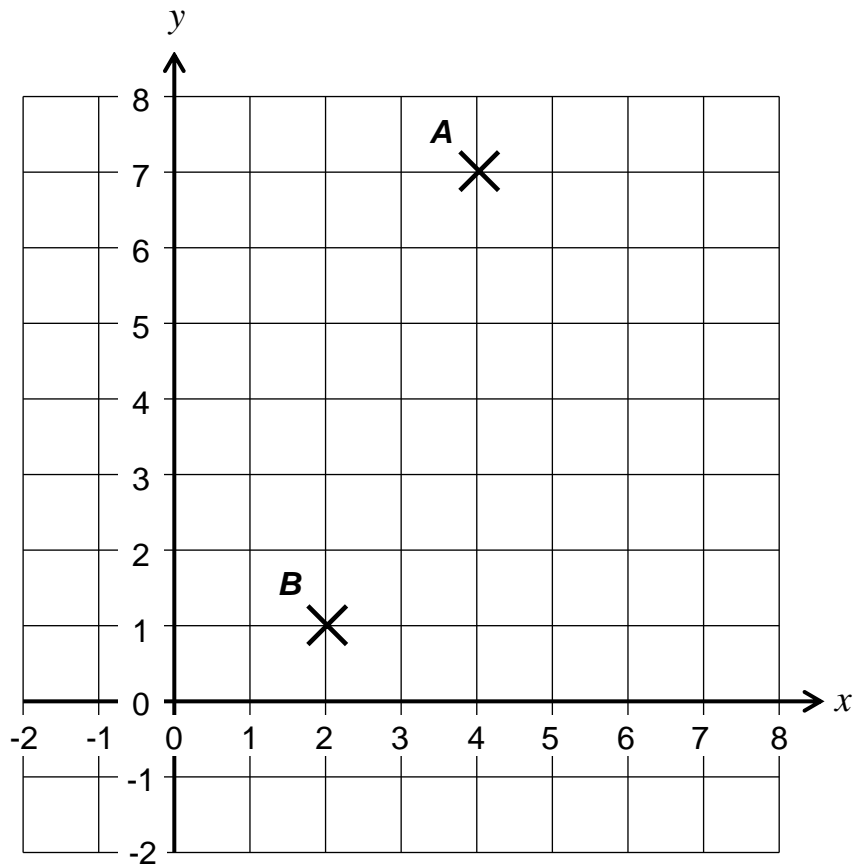
Question	Mark	out of
1		4
2		5
3		2
4		3
5		2
6		1
7		2
8		3
9		2
10		1
11		2
12		4
13		1
14		2
15		4
16		2
17		2
18		3
19		3
20		3
21		1
22		3
23		3
24		3
25		2
26		3
27		3
28		6
29		2
30		3
Total		80

There are no questions printed on this page

**DO NOT WRITE ON THIS PAGE
ANSWER IN THE SPACES PROVIDED**

Answer **all** questions in the spaces provided

1



1 (a) Write down the co-ordinates of point A.

[1 mark]

Answer (_____ , _____)

1 (b) Measure the length of the line AB to the nearest millimetre.

[1 mark]

Answer _____ mm

1 (c) Find the co-ordinates of the midpoint of AB .

[2 marks]

Answer (_____ , _____)

2 (a) Add brackets to this calculation to make it correct.

$$2 \times 6 + 3 = 18$$

[1 mark]

2 (b) Write the expression as a single power of a .

$$a^3 \times a^5$$

[1 mark]

Answer _____

2 (c) (i) What is $\sqrt{a^2}$?

[1 mark]

Answer _____

2 (c) (ii) Gerry says that $\sqrt{a^2}$ is the same as $(\sqrt{a})^2$.

Is Gerry correct?

Tick a box.

Explain your answer.

Gerry is correct

Gerry is incorrect

[2 marks]

3 The ratio of blue smarties to green smarties is 2 : 3.

What fraction of the smarties are blue?

[2 marks]

Answer_____

4 (a) Write 0.8 as a percentage.

[1 mark]

Answer_____%

4 (b) Write 0.8 as a fraction in its simplest form.

[2 marks]

Answer_____

5 How many times longer is line *B* than line *A*?
The lines are **NOT** drawn to scale.

Line *A* = 3cm



Line *B* = 48cm



[2 marks]

Answer_____

6 Simplify the ratio:

4 : 6

[1 mark]

Answer _____

7 Find the value of $6a + 2b$ when $a = 3$ and $b = 5$.

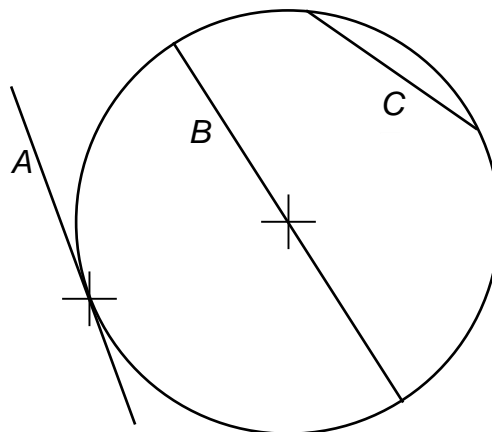
[2 marks]

Answer _____

8 Choose, from the list of words, the correct name for each straight line on this diagram.

[3 marks]

Arc
Chord
Circumference
Diameter
Radius
Tangent



A is a _____

B is a _____

C is a _____

- 9 A biased spinner has six sides
The probability of landing on each is shown below.

Score	1	2	3	4	5	6
Probability	0.1	$\frac{1}{5}$	15%	0.05		0.3

Complete the table to show the probability of it landing on a score of 5.

[2 marks]

Answer _____

- 10 Which of these numbers is closest to $\frac{5}{8}$?

Circle the correct answer.

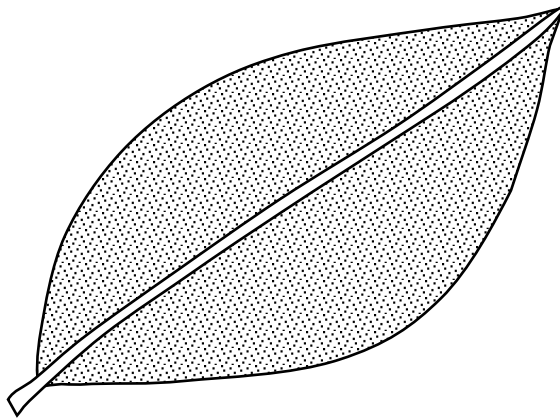
0.5 0.6 0.7 0.8

[1 mark]

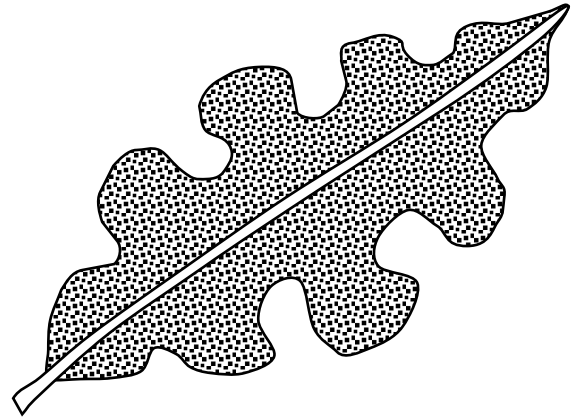
- 11 Show, clearly, that the square root of 45 is a number between 6 and 7.

[2 marks]

- 12** All of the diagrams in this question are drawn accurately and to the same scale.
Jess is looking at two of the leaves in her collection.

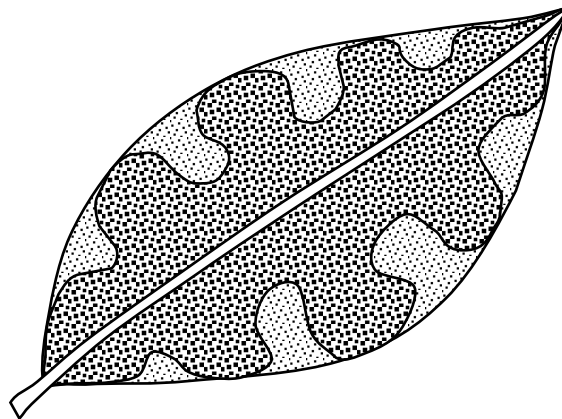


Leaf A



Leaf B

She notices that, when she puts Leaf *B* on top of Leaf *A*, she can still see the whole of the edge of Leaf *A*.



- 12 (a)** Which of the following statements is correct?

Tick a box:

- The perimeter of Leaf *A* is bigger than the perimeter of Leaf *B*.
- The perimeter of Leaf *A* is smaller than the perimeter of Leaf *B*.
- The perimeters of the two leaves are equal.
- It is impossible to compare the two perimeters.

[1 mark]

12 (b) Which of the following statements is correct?

Tick a box:

- The area of Leaf A is bigger than the area of Leaf B.
- The area of Leaf A is smaller than the area of Leaf B.
- The areas of the two leaves are equal.
- It is impossible to compare the two areas.

[1 mark]

12 (c) Jess puts Leaf A onto a centimetre square grid

Estimate the area of Leaf A.

Give your answer to the nearest square centimetre.

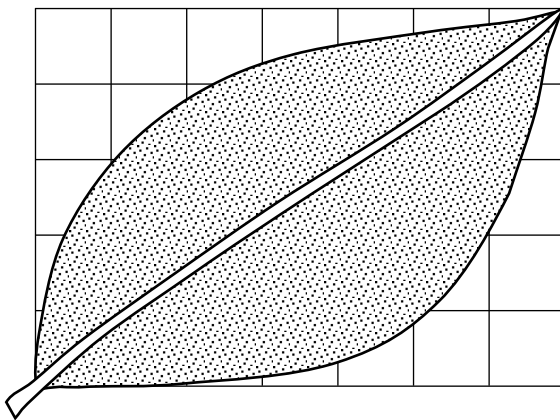


Diagram drawn accurately

1 centimetre square

[2 marks]

Answer _____ cm

13 Which of these numbers is a factor of 30?

Circle the correct answer.

4

6

12

60

[1 mark]

14 Seth wants to find out how often people in the town where he lives use the local swimming pool.

Seth uses this question on a questionnaire:

How many times do you use the local swimming pool?

1 to 5

5 to 10

10 to 15

Give two reasons why this is not a good question for Seth to use.

[2 marks]

Reason 1: _____

Reason 2: _____

15 A canteen offers choices of main meals and puddings for lunch

Main Meals	
Meat pie	£2.50
Fish and chips	£2.95
Chicken	£2.70
Cheese salad	£2

Puddings	
Apple crumble	80p
Ice cream	65p
Fruit tart	90p

15 (a) Evan chooses one main meal and one pudding.

From how many combinations of main meal and pudding could he choose?

[2 marks]

Answer _____

15 (b) Evan pays for his lunch with a £5 note.
He receives £1.65 change.

What did he have for his lunch?

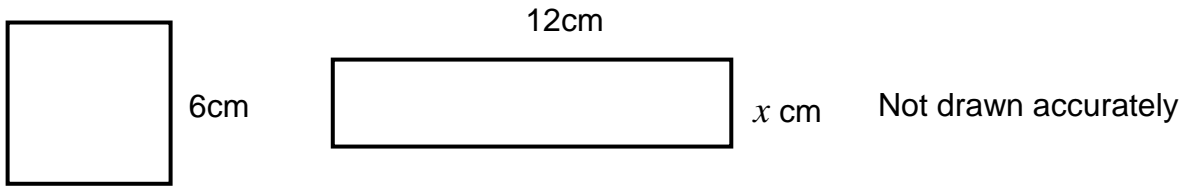
[2 marks]

Main meal _____

Pudding _____

16 The square and the rectangle have the same area.

What is the length of the missing side, x , of the rectangle?



[2 marks]

Length of side _____ cm

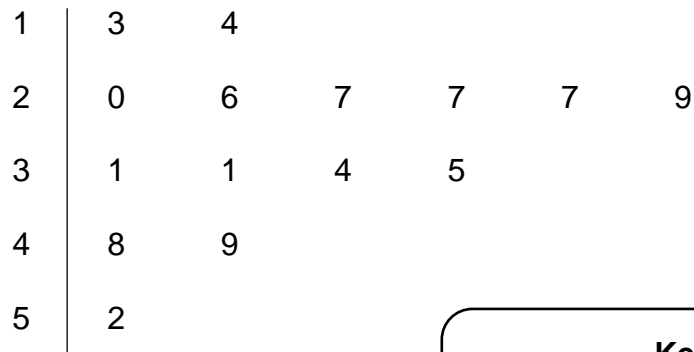
17 Solve the inequality:

$$3x - 7 > 10$$

[2 marks]

Answer _____

18 The stem and leaf diagram shows the ages of the 15 members of a club.



Key

1 | 3 represents 13 years

18 (a) What is the median age of the members of the club?

[1 mark]

Answer _____

18 (b) What is the range of their ages?

[2 marks]

Answer _____

19 Samina uses a recipe to make sponge cake.

Sponge cake
4 eggs
196g sugar
210g butter
220g flour

Samina has only **3 eggs**.

How much of each the remaining ingredients should she use to keep the recipe in proportion?

[3 marks]

Sugar _____ g

Butter _____ g

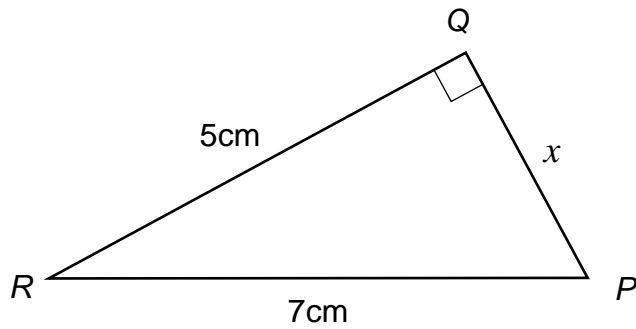
Flour _____ g

20 Decrease £680 by 15%.

[3 marks]

Answer £ _____

21 PQR is a right angled triangle.



Not drawn accurately

What is the length of the side marked x , when calculated to 1 decimal place?

Circle the correct answer.

3.1cm

3.9cm

4.9cm

5.1cm

[1 mark]

22 Trevor buys 3 first class tickets and 2 standard class tickets for a train journey.

The total cost of the tickets that he buys is £449.50.

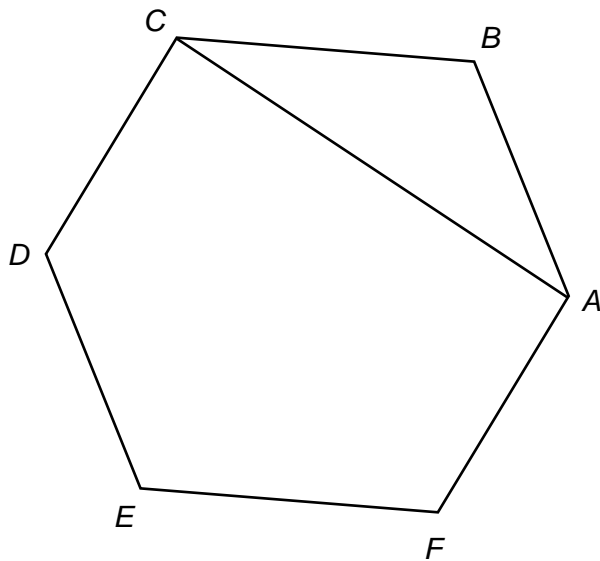
The cost of each standard class ticket is £45.50.

Find the cost of a first class ticket.

[3 marks]

Answer £ _____

23 *ABCDEF* is a regular hexagon.



Not drawn accurately

Calculate the size of angle *ACB*.

[3 marks]

Answer _____°

24 Patrick earns £290 per week.

Patrick asks for an increase of £30 per week.
Patrick's boss offers him a 11% increase.

Find the difference between the amount of money Patrick asked for
and what was offered to him by his boss.

[3 marks]

Answer £ _____

25 Work out the value of $3a^2$ when $a = -7$.

[2 marks]

Answer _____

26 A dog's weight, when given to two significant figures, is 8.1kg.

Use inequalities to write down limits between which the weight of the dog must lie.

[3 marks]

Answer _____

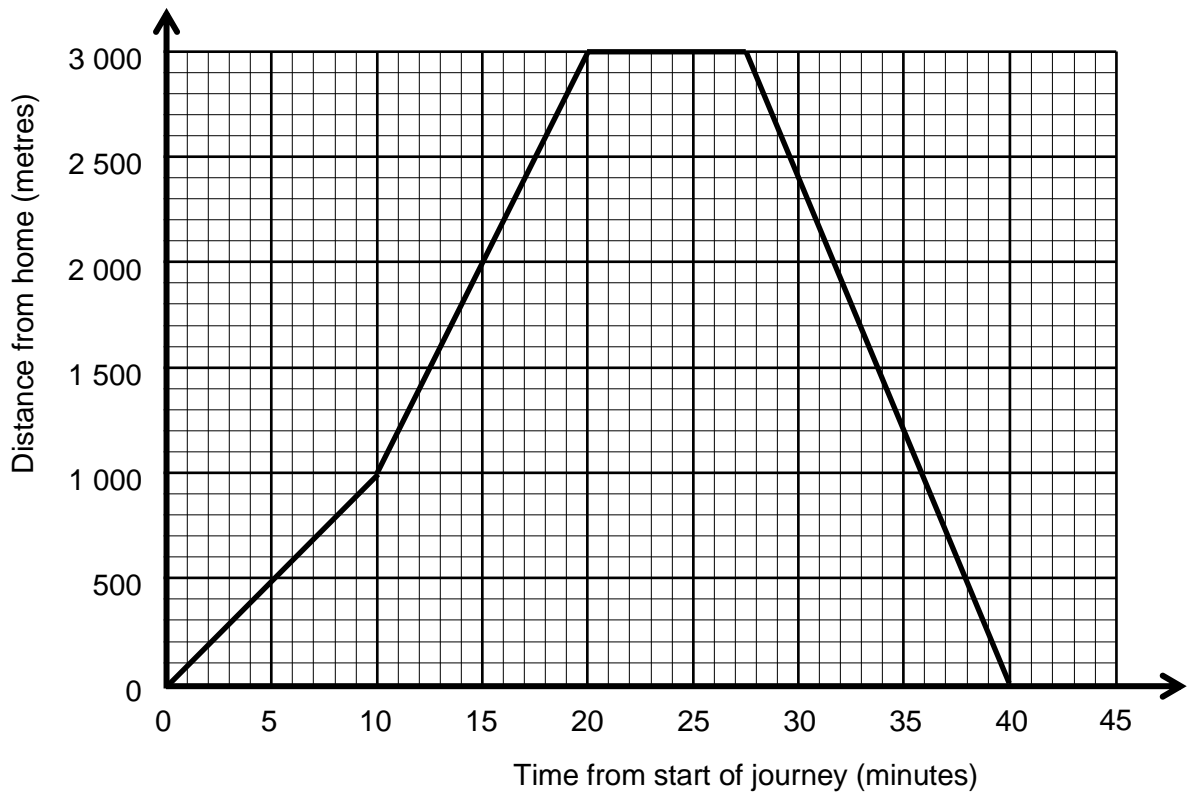
27 On a farm there are 156 more pigs than sheep.
The ratio of pigs to sheep is 5:2.

How many pigs and sheep in total are on the farm?

[3 marks]

Answer _____

28 Jenny goes on a bike ride.
Her journey is shown on the graph.



28 (a) Between which times on her outward journey is Jenny travelling fastest? **[1 mark]**

Answer _____ and _____

28 (b) For how long is Jenny stationary during the journey? **[1 mark]**

Answer _____ minutes and _____ seconds

28 (c) Calculate Jenny's average speed for the whole of the 40 minute journey.
Give your answer in kilometres per hour.

[4 marks]

Answer _____ km/h

29 James is trying to work out the values of x for which $x^3 - 7x = -12$.

He says that one value of x lies between -4 and -3 .

Is James correct?

Tick a box.

Explain your answer.

James is correct

James is incorrect

[2 marks]

- 30** The n th term of a sequence is $4n - 2$.
The n th term of a different sequence is $3n - 2$.

Find all three numbers, between 0 and 40, that are in both sequences.

[3 marks]

Answer _____ , _____ and _____

END OF QUESTIONS