

Name..... Class.....



Edexcel – Predicted paper 1

FOUNDATION

Friday 20th May 2022

Paper 1F – grouped by content area

| Number (*see Ratio – some overlap of topic areas) | |
|--|--|
| Arithmetic | Money |
| | Negative number |
| Fractions | Order fractions, decimals, percentages |
| | Fraction of an amount |
| | Fraction arithmetic |
| Properties | Place value |
| | Product of prime factors |
| Standard Form | Conversion |
| | Calculation |
| Approximation and Estimation | Estimation |
| Algebra | |
| Manipulation | Simplification |
| | Substitute values |
| Equations and inequalities | Linear inequality |
| | Quadratic equation |
| Graphs | Quadratic graph |
| Sequences | Linear sequence |
| Ratio, proportion, and rates of change (*see Number – some overlap of topic areas) | |
| Conversion | Length |
| Percentages | Percentage of an amount |
| | Percentage increase |
| Ratio | Write as a ratio |
| | Share in a ratio |
| Proportion | Direct proportion |

| Compound Measures | Speed |
|---------------------------------------|----------------------------|
| | Density |
| Geometry and measures | |
| Shape | Reflection |
| | Plan and elevation |
| Angles | Angles in a polygon |
| Length, area and volume | Volume of a cube |
| | Volume of a cylinder |
| Pythagoras's Theorem and Trigonometry | Exact trigonometric values |
| Probability | |
| Probability | Probability |
| | Frequency tree |
| Statistics | |
| Diagrams | Pictogram |
| | Bar chart |
| | Stem and leaf diagram |

Answer ALL questions.

Write your answers in the spaces provided.

You must write down all the stages in your working.

1. Henry buys

2 sandwiches at £1.85 each

2 Drinks at 72p each

1 bag of sweets at £1.05

Hey pays with a £10 note.

Work out how much change Henry should get.

£.....
(2 marks)

2. Write a number in the box to make a correct calculation

$$\boxed{12} \times \boxed{} = \boxed{-60}$$

(1 mark)

3. There are 480 students in a school.

$\frac{1}{5}$ of the students wear glasses.

How many of the students do not wear glasses

.....
(2 marks)

4. Calculate $\frac{3}{4} - \frac{1}{6}$

Give your answer in its simplest form.

.....
(2 marks)

5. State the value of the 5 in the number 45902

.....
(1 mark)

6. Express 48 as a product of prime factors.
Give your answer in index form.

.....
(2 marks)

7. a) Write the number 0.00043 in standard form.

.....
(1)

b) Write 1.86×10^5 as an ordinary number

.....
(1)

c) Calculate $(2.5 \times 10^6) + (7 \times 10^5)$
Give your answer in standard form.

.....
(2 marks)

8. There was 42 coaches at the theme park.
Each coach had 57 passengers on.
Entry to the theme park costs £31.25
Estimate the how much money the theme park makes on tickets that day

.....
(2 marks)

9. Simplify $3k^2 + 8k - 2k + 5k^2$

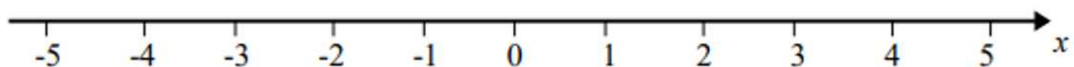
.....
(1 mark)

10. $a = 4$
 $b = -2$
 $c = 0.5$

Work out the value of $a^2 - 5b + 4c$

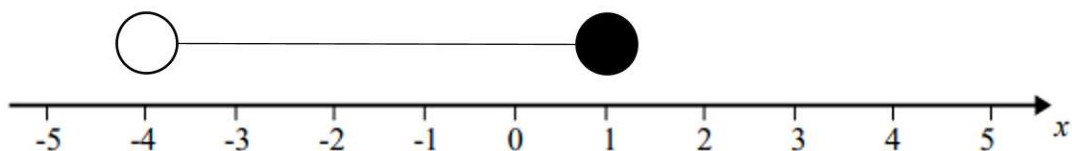
.....
(2 marks)

11. a) On the number line show the inequality $x > 3$



(1)

- b) State the inequality shown on the number line below.



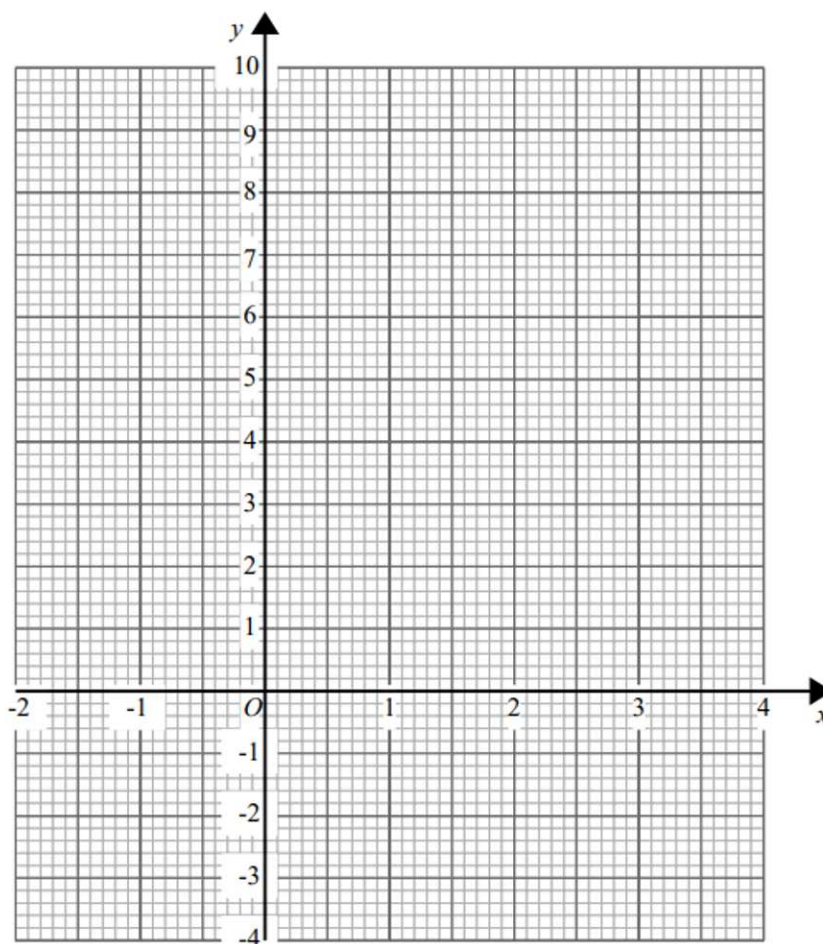
.....
(2 marks)

12. a) Complete the table of values for the equation $y = x^2 - 2x$

| x | -2 | -1 | 0 | 1 | 2 | 3 |
|-----|----|----|---|---|---|---|
| y | | 3 | | | 0 | |

- b) On the grid draw the graph

(2 marks)



(2 marks)

13. Here are the first 5 terms of an arithmetic sequence

5 9 13 17 21

- a) Write down the 10th term in this sequence.

.....
(1 mark)

- b) Is 120 a term in this sequence .

You must show how you get your answer

.....
.....

(2 marks)

- 14.** a) Calculate 35% of 240

.....
(1 mark)

- b) A tennis club has increased its membership fee by 20%.
Last year it cost £62.
How much will it cost this year.

.....
(2 marks)

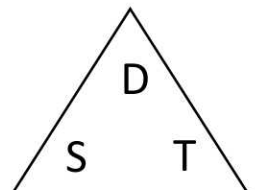
- 15.** There are 10 counters in a bag.
4 of them are red, the rest are green.
Write down the ratio of red to green in its simplest form.

.....
(2 marks)

- 16.** Share £91 between Harriett and Sam in the ratio 3:4.
How much does each receive.

Harriett =
Sam =
(2 marks)

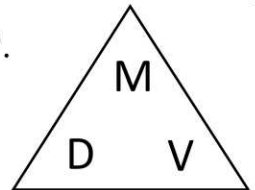
- 17.** The distance between Hartlepool and Blackpool is 140 miles.
Stanley cycles at an average speed of 20 mph.
How long will it take him to cycle this journey



You will need to
remember this

.....
(2 marks)

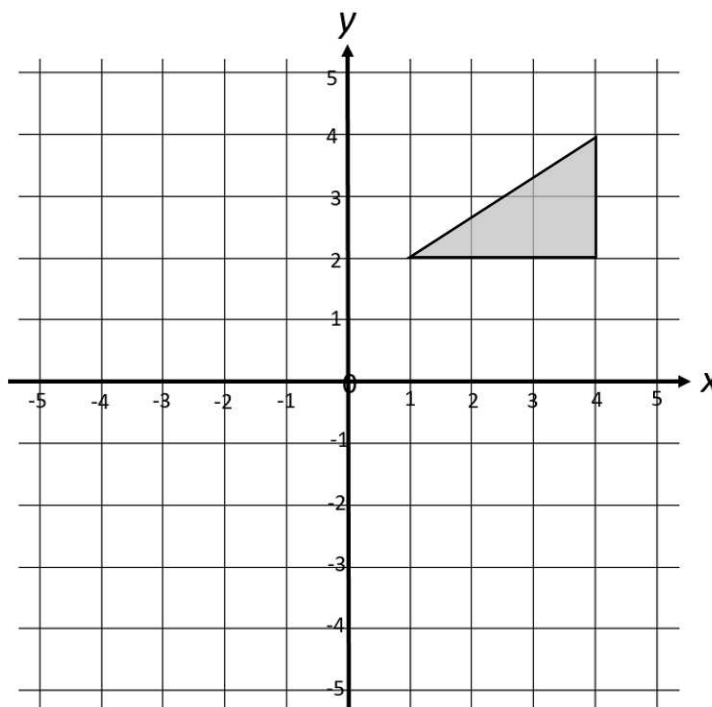
18. A piece of gold has a mass of 950 grams and a volume of 50 cm^3 .
Work out the density of the piece of gold.



You will need to remember this

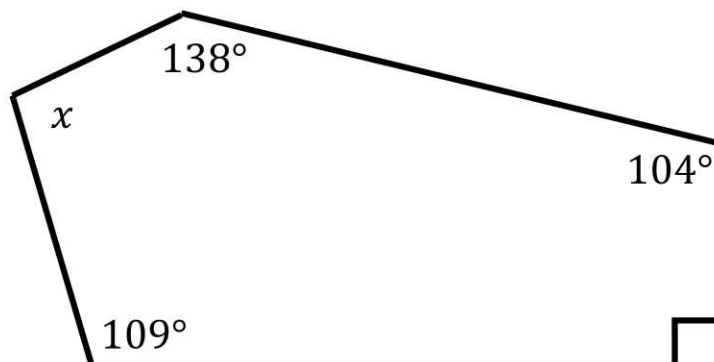
..... g/cm^3
(2 marks)

19. Reflect the shape in the line $y = 1$



(2 marks)

20. Calculate angle x .

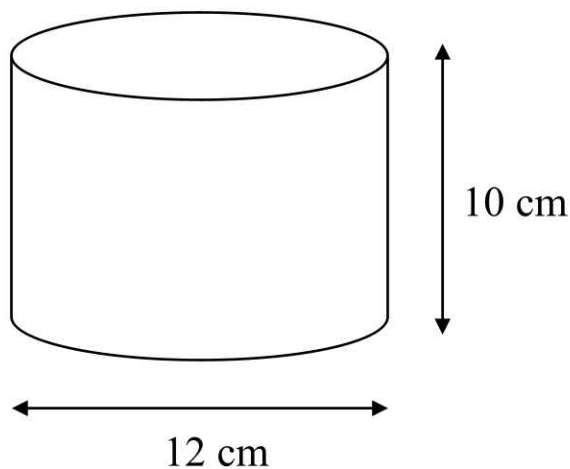


.....
(2 marks)

21. A cube has a width of 8cm.
Calculate its volume.

.....cm³
(2 marks)

22. Calculate the volume of this cylinder.
Leave your answer in terms of π .



.....
(2 marks)

23. There are 5 yellow, 3 green and 4 orange cubes in a box.
What is the probability of **not** selecting a green.

.....
(2 marks)

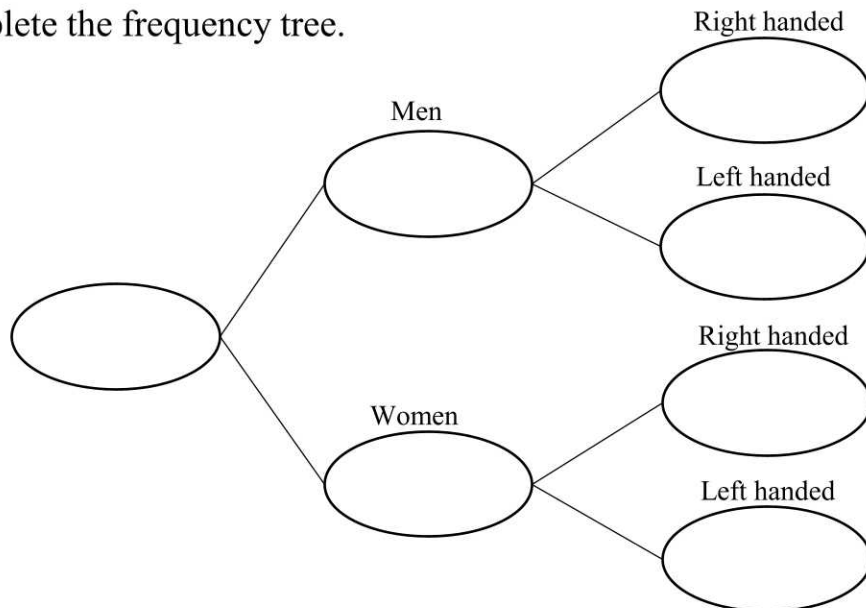
24. Place these in ascending order

45% $\frac{2}{5}$ 0.44

.....
(2 marks)

- 25.** There are 80 employees working in a factory.
46 are women.
 $\frac{3}{4}$ of the staff are right handed, of which 28 are men.

a) Complete the frequency tree.



- b) An employee is chosen at random.
Calculate the probability that this employee is a left handed woman.

.....
(2 marks)

- 26.** Here are the goals scored by the players of a football team last season.

| | | | | | | |
|----|----|----|----|----|----|----|
| 5 | 12 | 15 | 2 | 31 | 12 | 35 |
| 23 | 20 | 7 | 22 | 11 | 20 | 12 |

- a) Display this data in a stem and leaf diagram.

- b) Calculate the median.

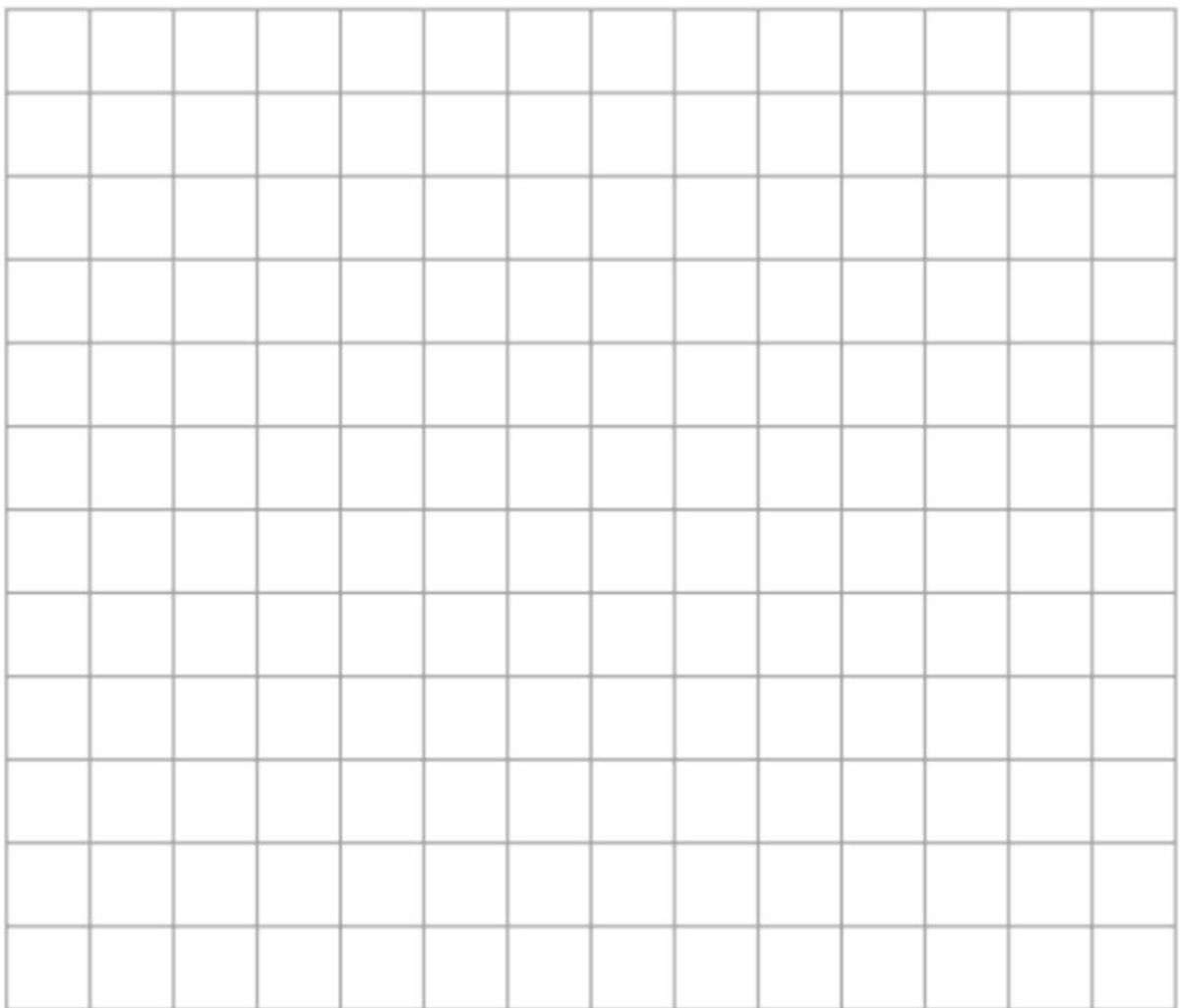
.....
(4 marks)

27. 40 students from Year 10 and Year 11 are choosing their favourite subject.

The table gives information about their results.

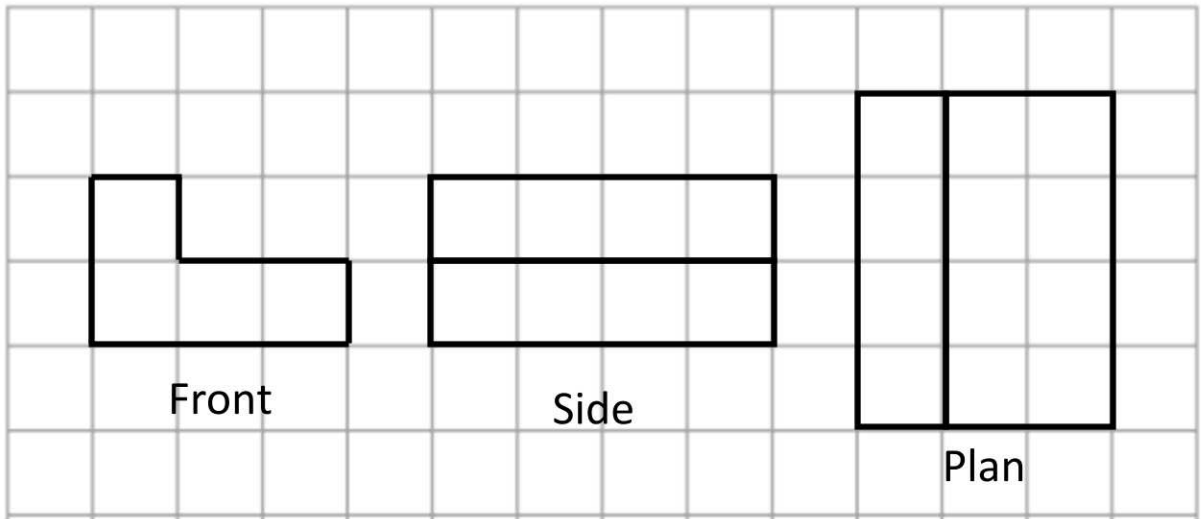
| | English | Mathematics | Science |
|---------|----------------|--------------------|----------------|
| Year 10 | 3 | 10 | 5 |
| Year 11 | 8 | 7 | 7 |

Draw a suitable chart for this information.



(4 marks)

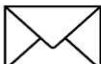
28. The diagram below shows the front elevation, side elevation and plan of a solid shape drawn on a cm grid.











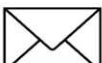

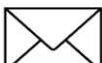



In the space below, draw a sketch of the solid shape.
Give the dimensions of the solid on your sketch.

(3 marks)

29. The pictogram below shows the amount of letters sent during last week.

 = 10 letters

| Day | Frequency |
|-----------|--|
| Monday |     |
| Tuesday | |
| Wednesday |     |
| Thursday |       |
| Friday | |

80 letters were sent in total on Tuesday and Friday in the ratio 5:11.
Complete the pictogram.

(3 marks)

30. a is directly proportional to b .

When $a = 42$, $b = 6$

Find the value of a when $b = 5$

.....
(2 marks)