Every Topic on the Edexcel 2022 Advanced Information Practice Booklet

Paper 2 (Calculator)

Foundation Tier

GCSE Maths Tutor

How it all Works!

Work through the practice booklet, scan the code, watch the live tutorial and check your answers!

Try it out!

Answer ALL questions.
Write your answers in the spaces provided.
You must write down all the stages of your working.

1. James buys 30 pencils, 30 pens, 30 rulers and 30 pencil cases.

Price List

Pens: 6 for 82p
Pencils: 15 for 45p
Rulers: 10 for £1.25
Pencil Cases: 37p each

What is the total amount that James spends?

.....
(3 marks)

2. Write these temperatures is order. Start with the lowest.

$7^oC \quad -2^oC \quad 10^oC \quad -5^oC \quad 3^oC$

.....
(2 marks)

3. a) Work out $\frac{3}{4} \times \frac{2}{3}$ giving your answer in its simplest form.

.....
(2 marks)

b) Work out $\frac{2}{9} \div \frac{1}{5}$ giving your answer as a mixed number in its simplest form.

.....
(2 marks)

4. Work out $1\frac{3}{4} + \frac{2}{3}$ giving your answer as a mixed number in its simplest form.

.....

(3 marks)

5. Write these fractions in order of size. Start with the smallest.

$$\frac{3}{4} \qquad \frac{5}{7} \qquad \frac{9}{25} \qquad \frac{11}{15}$$

.....

(2 marks)

6. Write down a multiple of 6 that is between 40 and 50.

.....

(1 mark)

7. a) Write 7357 correct to 3 significant figures

.....

(1 mark)

b) Write 2.456 correct to 2 significant figures

.....

(1 mark)

8. Carla rounds a number, x, to one decimal place.

The result is 7.2

Write down the error interval for x.

…… ≤ x < ……

(2 marks)

9. For each statement below, put the correct symbol from the following: < , > , =

3.4 ……. 3.6

-2 ……. -3

25 ……. -5^2

(2 marks)

10. a) Simplify $\frac{30x^2y^3}{6xy^2}$

……

(2 marks)

b) Simplify $(2x^2y)^3$

……

(2 marks)

11. a) Expand $b(3b + 7)$

……

(1 mark)

b) Expand $3y(5 - 4y)$

……

(2 marks)

12. Expand and Simplify $3(5x + 4) - 2(3x - 2)$

.....

(3 marks)

13. a) Factorise $3x + 15$

b) Factorise fully $35x - 21x^2$

.....

(1 mark)

.....

(2 marks)

14. Solve the simultaneous equations:

$$4x + y = 25$$

$$x - 3y = 16$$

x = ...

y = ...

(4 marks)

15. 3 calculators and 4 books cost £23

2 calculators and 3 books cost £16

Work out the price of a single calculator and a single book.

Price of a calculator = ...

Price of a book = ...

(4 marks)

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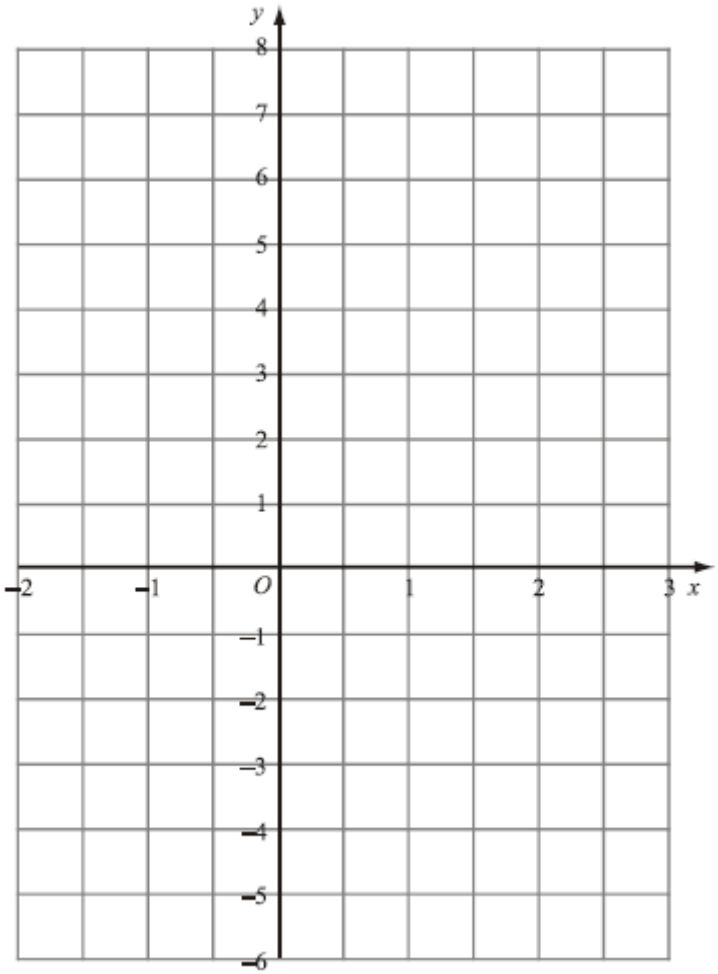
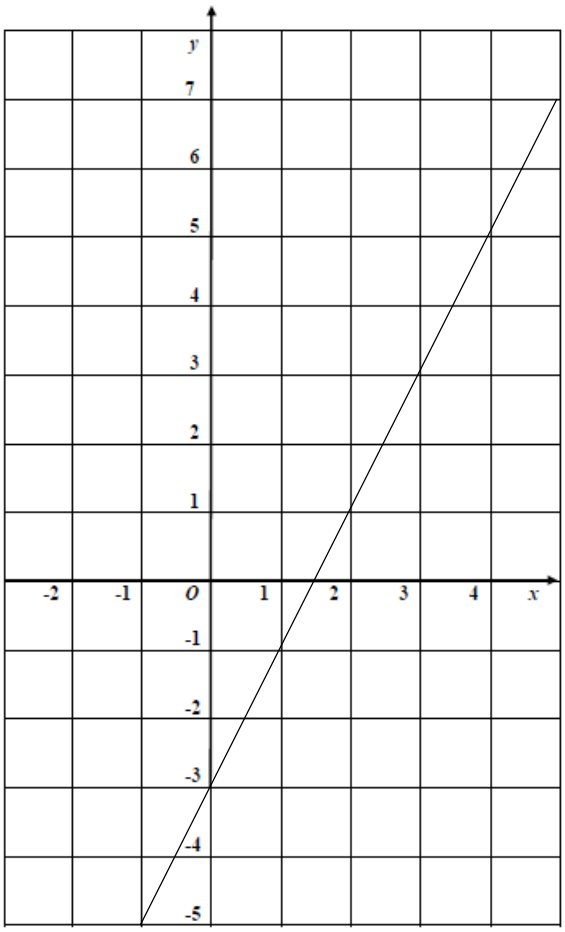
16. On the grid, draw the graph of $y = 2x - 1$ between the values $x = -2$ and $x = 3$



(4 marks)

17. Write down the equation of the line shown below.

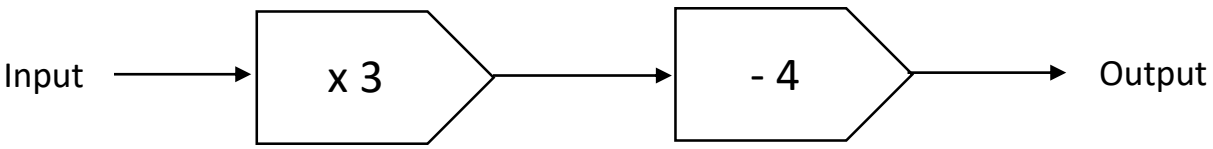
Give your answer in the form $y = mx + c$



.....

(2 marks)

18. A number machine is shown below:



a) Find the output when the input is 5

.....

(1 mark)

b) Find the input when the output is 35

.....

(1 mark)

19. a) Convert 3.45kg into grams

.....
(1 mark)

b) Convert 2.5 hours into minutes

.....
(1 mark)

c) Convert $3.2m^2$ into cm^2

.....
(1 mark)

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20. The length of a car is 3.6 metres.

Karl makes a scale model of the car.
He uses a scale of 1cm to 30cm.

Work out the length of the scale model of the car.
Give your answer in centimetres.

.....
(2 marks)

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21. a) Write 0.7 as a percentage

.....
(1 mark)

b) Write 0.24 as a percentage

.....
(1 mark)

22. James buys 6kg of sweets for £10.

He puts them into 250g bags.

He sells them all for 50p per bag.

Work out James's percentage profit.

.....

(3 marks)

23. Amy buys a new car for £18,000.

Each year the car depreciates by 12%.

How much will the car be worth at the end of 3 years?

.....

(3 marks)

24. Write down the ratio of 450 grams to 15 grams.

Give your answer in its simplest form.

.....

(2 marks)

25. 5 boxes of cereal have a total weight of 1750 grams.

4 boxes of cereal and 3 sachets of sugar have a total weight of 1490 grams.

Work out the total weight of 3 boxes of cereal and 2 sachets of sugar.

.....

(3 marks)

26. Identical pairs of boots are sold in London, in Geneva and in Paris.

The boots cost:

€174 in Paris

£115 in London

189 Swiss Francs in Geneva

The exchange rates are:

£1 = €1.27

1 Swiss Franc = £0.72

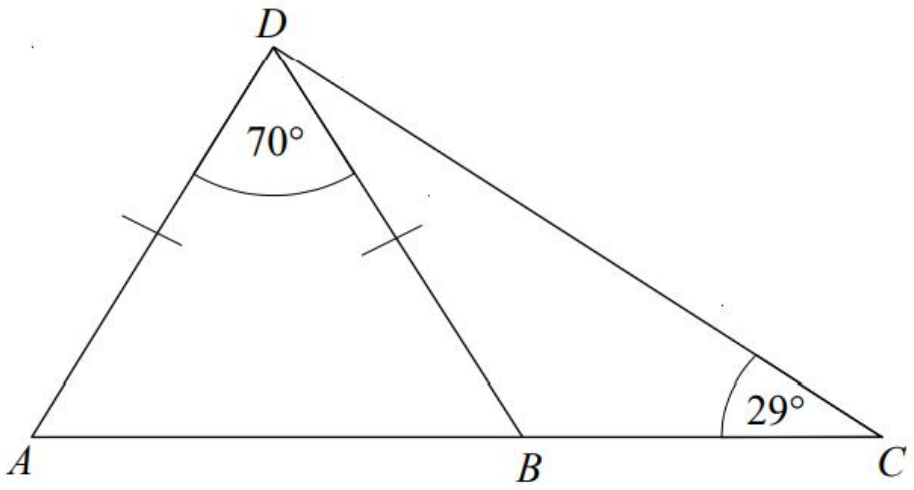
In which city are the boots best value for money?

.....

(3 marks)

27. ABC is a straight line.

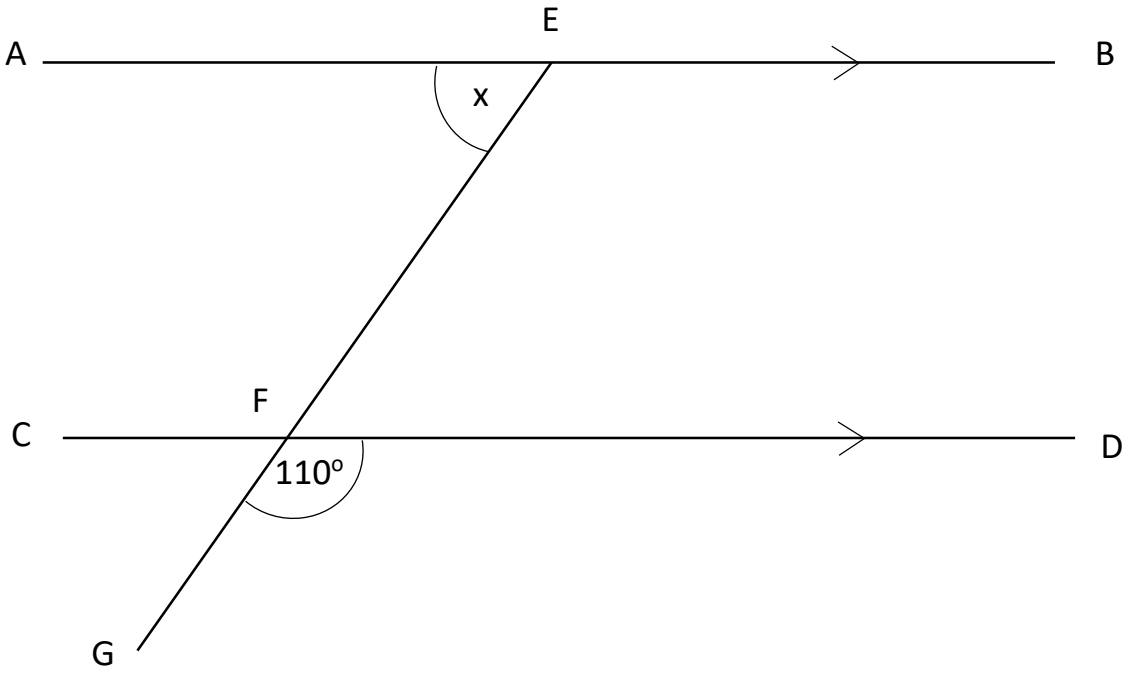
Work out the size of angle BDC.



.....

(3 marks)

28.



AB and CD are parallel lines.

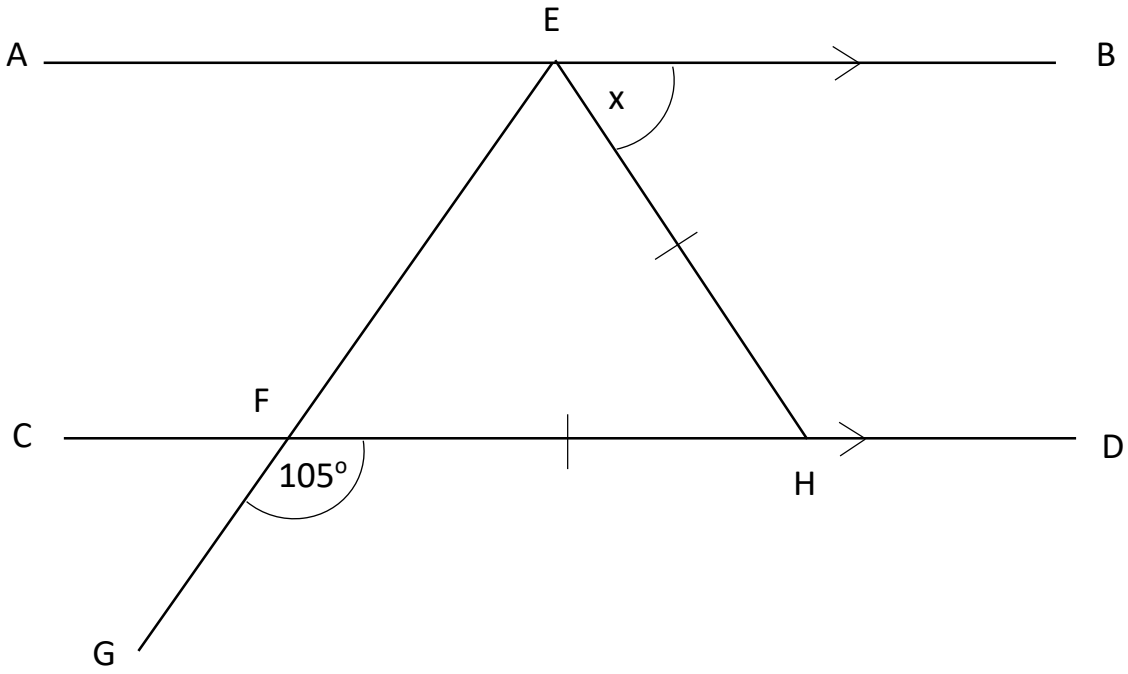
Angle GFD = 110°

Find the size of angle AEF.

.....

(2 marks)

29.



AB and CD are parallel lines.

EFH is an isosceles triangle.

Angle GFD = 105°

Find the size of angle AEF.

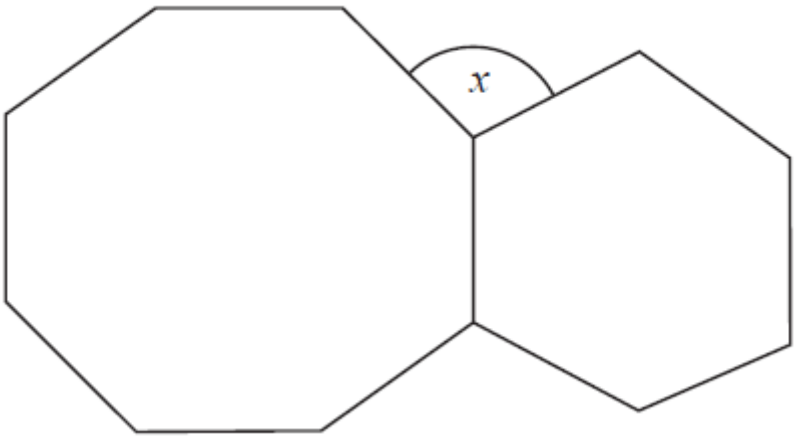
Give a reason for each stage of your working.

.....

(3 marks)

30. The diagram shows a regular octagon and a regular hexagon.

Work out the size of angle x.



.....

(3 marks)

31. A circle has a diameter 8cm.

a) Work out the circumference of the circle.

Give your answer correct to 1 decimal place.

.....

(2 marks)

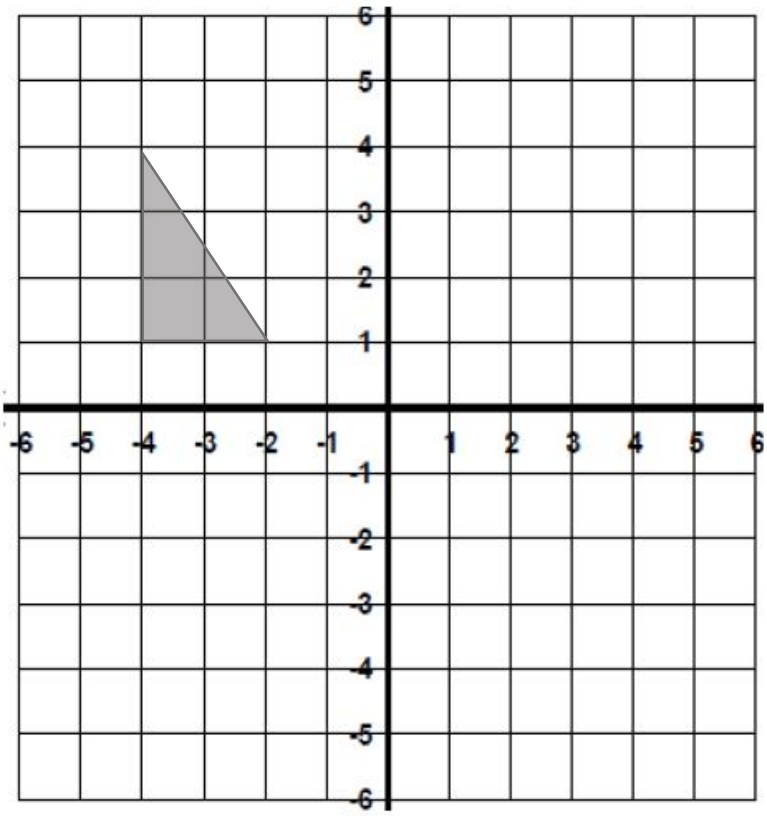
b) Work out the area of the circle.

Give your answer correct to 2 decimal places.

.....

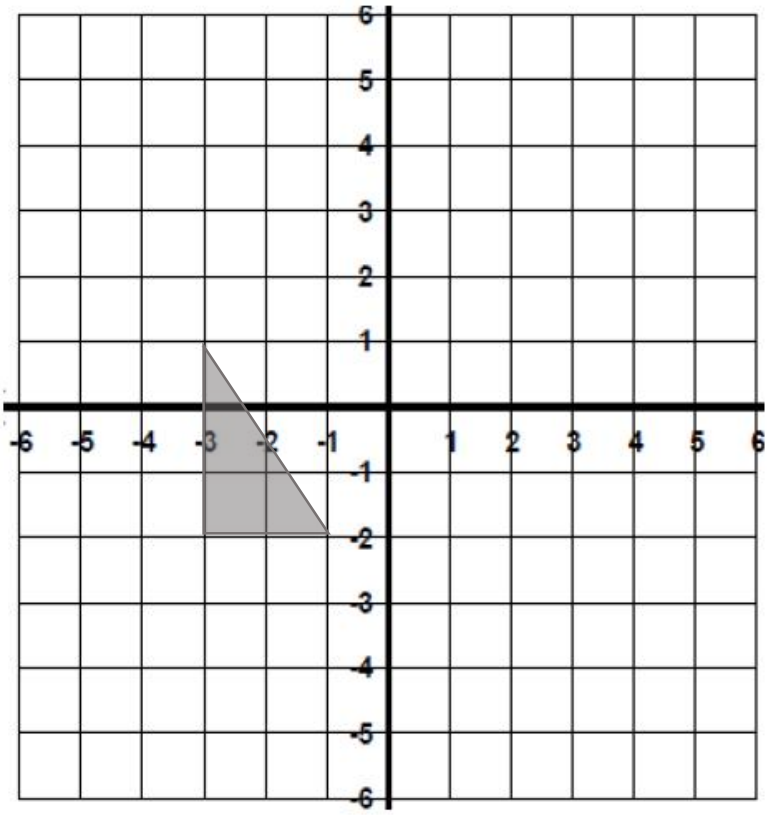
(2 marks)

32. a) Translate the shaded shape by the vector $\begin{pmatrix} 4 \\ -2 \end{pmatrix}$



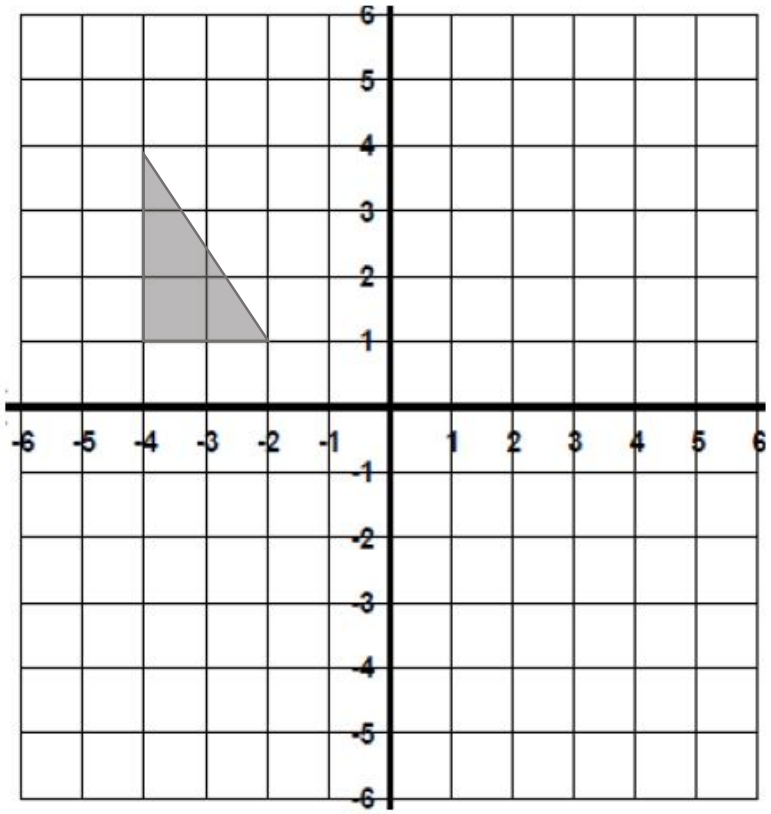
(2 marks)

b) Reflect the shaded shape in the line $x = 1$



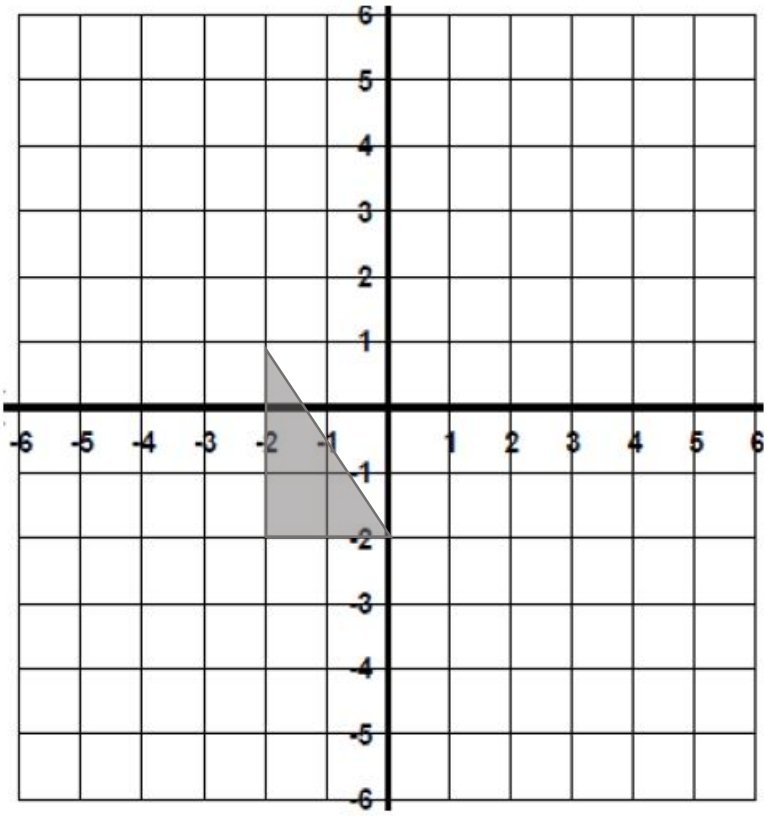
(2 marks)

33. a) Rotate the shaded shape 90° clockwise about the point (-1,0)



(2 marks)

b) Enlarge the shaded shape by a scale factor of 2 from the point (-4,-3)



(2 marks)

34. The probability that Amy wins a game of snooker is 0.2

Amy is going to play two games of snooker.

Work out the probability that she wins exactly one game.

.....

(3 marks)

35. James takes the bus to school.

The probability his bus is late going to school is 0.3

The probability his bus is late going home is 0.7

What is the probability that at least one of his buses is late?

.....

(3 marks)

36. Mary has two bags of counters.

In bag A there are 3 red counter and 2 blue counters.

In bag B there are 4 red counters and 3 blue counters.

Mary take at random a counter from bag A and notes its colour.

She then takes at random a counter from bag B.

Work out the probability that Mary takes the same coloured counters.

.....

(4 marks)

37. Here is a list of numbers.

4 , 8 , 5 , 9 , 10 , 5 , 6 , 3 , 4

a) Work out the mean

.....

(1 mark)

b) Work out the median

.....

(1 mark)

c) Work out the mode

.....

(1 mark)

38. The table shows the marks for 30 students in a test.

Mark	Frequency
14	2
15	10
16	2
17	3
18	13

a) Calculate the mean mark.

.....

(3 marks)

b) Write down the modal mark.

.....

(1 mark)

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39. The table shows the height of 30 students.

Height (h cm)	Frequency
$130 < h \leq 140$	1
$140 < h \leq 150$	7
$150 < h \leq 160$	8
$160 < h \leq 170$	10
$170 < h \leq 180$	4

a) Calculate an estimate for the mean height.

.....

(3 marks)

b) Write down the modal class interval.

.....

(1 mark)

40. On an activity day students play one sport out of football, hockey or tennis.

There were 120 students.
30 of these students are boys.
12 of the 38 students who play hockey are boys.
35 of the 45 students who play football are girls.

One of the girls is chosen at random.
Write down the probability that they play tennis.

.....

(4 marks)

End of Paper