| Centre No. | | | | | | Paper Reference | | | | | | | Surname Correction | Initial(s) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Candidate No. | | | | | | 1 | 3 | 8 | 0 | / | 2 | F | Signature Mr M Semar | |

Paper Reference(s)

**1380/2F**

# Edexcel GCSE

## Mathematics (Linear) – 1380

Paper 2 (Calculator)

# Foundation Tier

Friday 12 November 2010 – Morning

Time: 1 hour 30 minutes

Examiner's use only

Team Leader's use only

**Materials required for examination**
Ruler graduated in centimetres and millimetres, protractor, compasses, pen, HB pencil, eraser, calculator. Tracing paper may be used.

**Items included with question papers**
Nil

**Instructions to Candidates**

In the boxes above, write your centre number, candidate number, your surname, initials and signature.
Check that you have the correct question paper.
Answer ALL the questions. Write your answers in the spaces provided in this question paper.
**You must NOT write on the formulae page.**
**Anything you write on the formulae page will gain NO credit.**
If you need more space to complete your answer to any question, use additional answer sheets.

**Information for Candidates**

The marks for individual questions and the parts of questions are shown in round brackets: e.g. **(2)**.
There are 27 questions in this question paper. The total mark for this paper is 100.
There are 24 pages in this question paper. Any blank pages are indicated.
**Calculators may be used.**
If your calculator does not have a $\pi$ button, take the value of $\pi$ to be 3.142 unless the question instructs otherwise.

**Advice to Candidates**

Show all stages in any calculations.
Work steadily through the paper. Do not spend too long on one question.
If you cannot answer a question, leave it and attempt the next one.
Return at the end to those you have left out.

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*Turn over*

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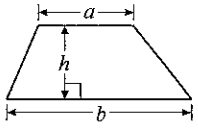
**GCSE Mathematics (Linear) 1380**

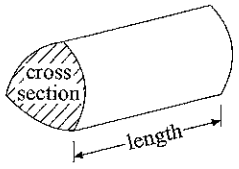
Formulae: Foundation Tier

**You must not write on this formulae page.**
**Anything you write on this formulae page will gain NO credit.**

**Area of trapezium** = $\frac{1}{2}(a+b)h$




**Volume of prism** = area of cross section × length



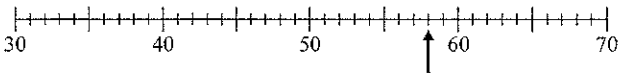
Leave blank

**Answer ALL TWENTY SEVEN questions.**

**Write your answers in the spaces provided.**

**You must write down all stages in your working.**

**1.** (a)

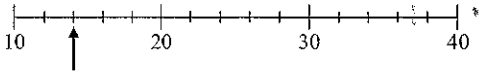



Write down the number marked by the arrow.

58

**(1)**

(b)

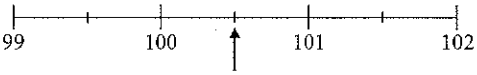



Write down the number marked by the arrow.

14

**(1)**

(c)

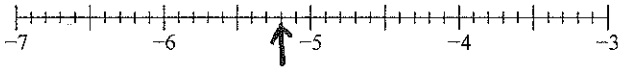



Write down the number marked by the arrow.

100.5

**(1)**

(d)



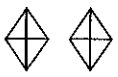

Find the number −5.2 on the number line.
Mark it with an arrow ( ↑ ).

**(1)** Q1

**(Total 4 marks)**

Leave blank

**2.** Jason asked some students what their favourite colour was.
The pictogram shows information about the number of students whose favourite colour was red or blue.

| | |
|---|---|
| Red |  |
| Blue |  |
| Purple |  |
| Yellow |  |

Key:  represents 4 students

(a) Write down the number of students who said red.

4 + 4

8

**(1)**

(b) Write down the number of students who said blue.

4 + 4 + 4 + 4 + 2

18

**(1)**

12 students said their favourite colour was purple.
5 students said their favourite colour was yellow.

(c) Use this information to complete the pictogram.

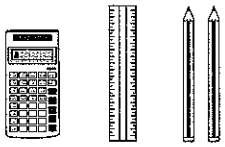
**(2)**

Q2

**(Total 4 marks)**

Leave blank

**3.** Melissa buys



1 calculator at £4.38
1 ruler at 45p
2 pencils at 29p each

She pays with a £10 note.

Work out how much change Melissa should get.

2 pencils at 29p each cost 29 × 2 = 58 pence

4.38
+ 0.45
+ 0.58
= 5.41

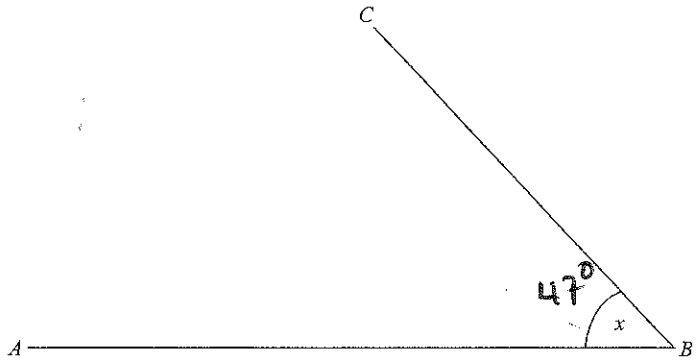
Change = 10 − 5.41
= £4.59

£ 4.59

**(Total 3 marks)**

Q3

**4.**




(a) Measure the length of the line *AB*.
Give the units with your answer.

8.5 cm

**(2)**

(b) Measure the size of the angle marked *x*.

47 °

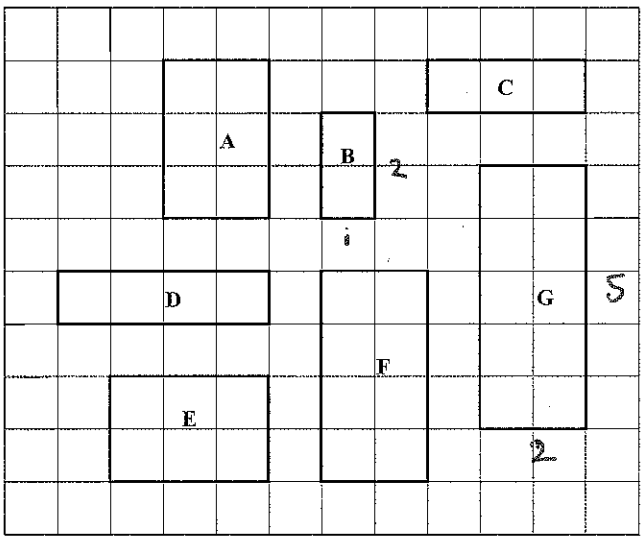
**(1)**

**(Total 3 marks)**

Q4

Leave blank

**5.** Here are some rectangles on a grid of centimetre squares.




(a) Find the area of rectangle **G**.

2 × 5

10 ..... $cm^2$

**(1)**

(b) Find the perimeter of rectangle **B**.

1 + 1 + 2 + 2

6 ..... cm

**(1)**

**Two** of the rectangles are congruent. (same size, same shape)

(c) Write down the letters of these two rectangles.

A ..... and E .....

**(1)**

Rectangle **F** is an enlargement of rectangle **B**.

(d) Write down the scale factor of the enlargement.

Twice the size in all directions.

2 .....

**(1)**

**(Total 4 marks)**

Q5

Leave blank

**6.** There are 11 children in a room.

6 of the children are girls.

(a) What fraction of the children are girls?

$\frac{6}{11}$

**(1)**

2 of the boys are sitting down.

(b) What fraction of the boys are sitting down?

boys = 11 − 6 = 5 boys

$\frac{2}{5}$

**(1)**

Q6

**(Total 2 marks)**

**7.** (a) Simplify $k + k + k + k + k$

$5k$

**(1)**

(b) Simplify $2m + 3m - m$

$4m$

**(1)**

(c) Solve $6x = 30$

$\frac{6x}{6} = \frac{30}{6}$

$x = 5$

**(1)**

(d) Solve $17 - y = 14$

$y = 3$

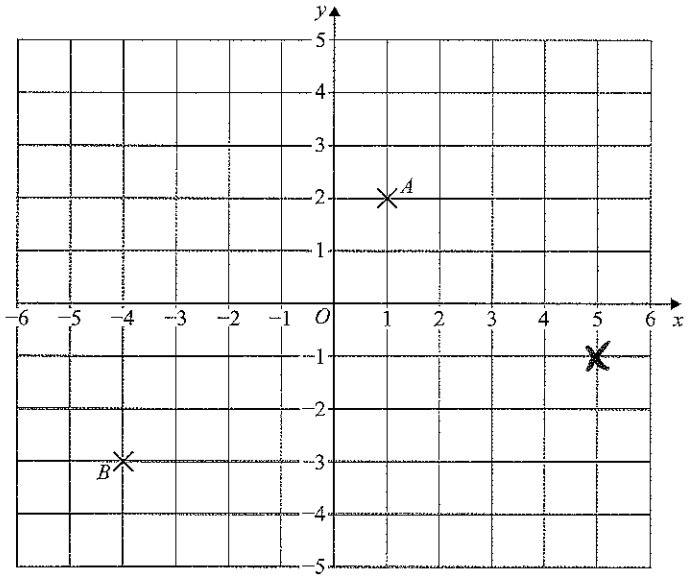
**(1)**

Q7

**(Total 4 marks)**

Leave blank

**8.**




(a) (i) Write down the coordinates of the point $A$.

( 1 , 2 )

(ii) Write down the coordinates of the point $B$.

( −4 , −3 )

**(2)**

(b) On the grid, plot the point $(5, -1)$.
Label this point $C$.

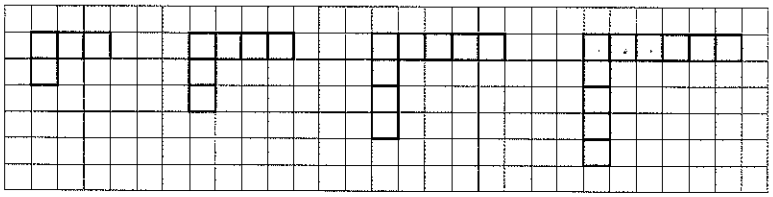
**(1)**

**(Total 3 marks)**

Q8

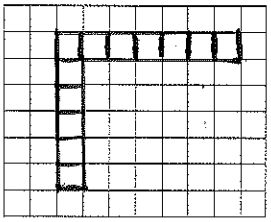
Leave blank

**9.** Here are some patterns made from squares.



Pattern 1 Pattern 2 Pattern 3 Pattern 4

(a) On the grid below, draw Pattern 5



**(1)**

(b) Complete the table for Pattern 5 and Pattern 6

| **Pattern** | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| **Number of squares** | 4 | 6 | 8 | 10 | 12 | 14 |

**(2)**

Amit says

'625 is a number in the sequence 4, 6, 8, 10, .... '

(c) Amit is **wrong**.
Explain why.

625 is not a multiple of 2.
or 625 is not even

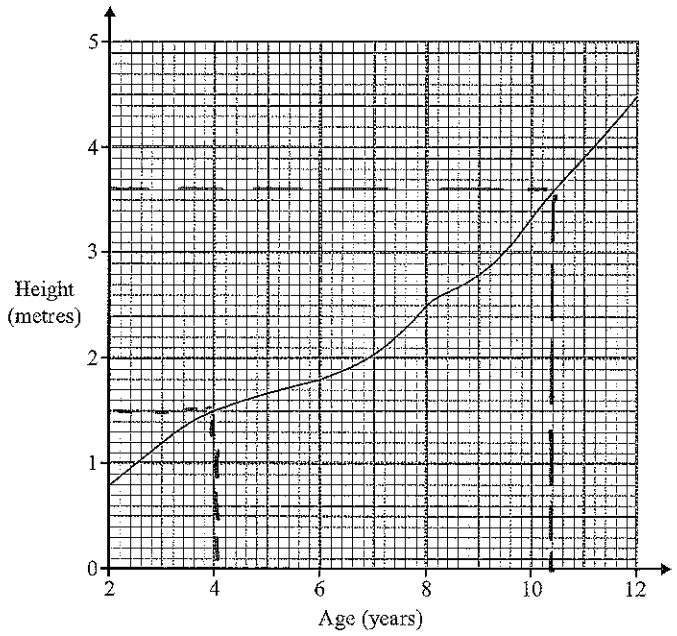
**(1)**

**Q9**

**(Total 4 marks)**

Leave blank

**10.** The graph shows information about the age and height of a tree.




(a) Use the graph to find the height of the tree when it was exactly 4 years old.

1.5 m

**(1)**

(b) Use the graph to find the age of the tree when it had a height of 3.6 m.

10.4 years

**(1)**

Q10

**(Total 2 marks)**

Leave blank

**11.** Here are the weights, in kg, of 7 people.

57 87 49 49 72 45 75

(a) Work out the range of these weights.

Highest - Lowest -

87 - 45 = 42

42 kg

**(2)**

(b) Work out the mean weight.

$$\text{Mean} = \frac{57+87+49+49+72+45+75}{7}$$

Mean = 62 kg

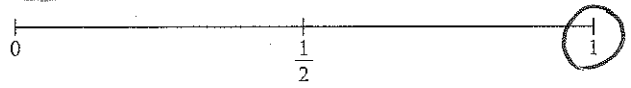
62 kg

**(2)**

**Q11**

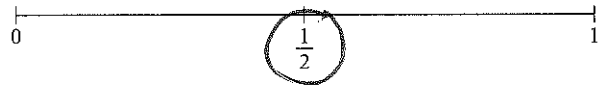
**(Total 4 marks)**

**12.** (a) On the probability scale below, mark with a cross (×) the probability that in an all girls school the youngest student will be a girl.



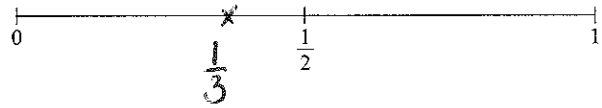

**(1)**

(b) On the probability scale below, mark with a cross (×) the probability that the next baby born in London will be a boy.




**(1)**

(c) On the probability scale below, mark with a cross (×) the probability that when a fair dice is rolled it will land on a number less than 3. 1 or 2



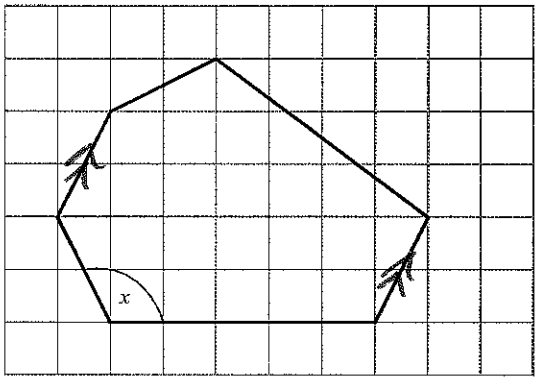

**(1)**

**Q12**

**(Total 3 marks)**

Leave blank

**13.** Here is a six-sided polygon drawn on a grid.




(a) Write down the mathematical name of a six-sided polygon.

Hexagon

**(1)**

(b) On the polygon, mark with arrows (>>) a pair of parallel lines.

**(1)**

(c) What type of angle is the angle marked $x$?

Obtuse

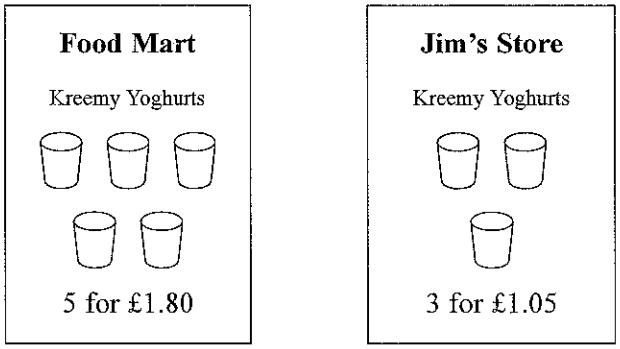
**(1)**

Q13

**(Total 3 marks)**

Leave blank

**14.** Two shops, Food Mart and Jim's Store, both sell Kreemy Yoghurts.




At which shop are Kreemy Yoghurts the better value for money?
You must show all your working.

Food Mart :
1 Yoghurt : 1.80 ÷ 5 = £0.36 = 36p
Jim's Store :
1 Yoghurt : 1.05 ÷ 3 = £0.35 = 35p
Better value = Jim's Store (35p)

Jim's store

Q14

**(Total 3 marks)**

Leave blank

**15.** Here are all the factors of 16

1 (2) 4 8 16

(a) Write down the factor of 16 that is a prime number.

2

**(1)**

(b) Write down all the factors of 14

1, 2, 7, 14

1, 2, 7, 14

**(2)**

**(Total 3 marks)**

Q15

**16.** (a) Write these numbers in order of size.
Start with the smallest number.

0.306 0.63 0.3 0.068

0.068, 0.3, 0.306, 0.63

**(1)**

(b) Write these fractions in order of size.
Start with the smallest fraction.

$\frac{3}{4}$ $\frac{7}{12}$ $\frac{5}{6}$ $\frac{3}{8}$

Equivalent fractions → $\frac{18}{24}$ $\frac{14}{24}$ $\frac{20}{24}$ $\frac{9}{24}$

$\frac{9}{24} < \frac{14}{24} < \frac{18}{24} < \frac{20}{24}$

↑ less than.

$\frac{3}{8}$, $\frac{7}{12}$, $\frac{3}{4}$, $\frac{5}{6}$

**(2)**

**(Total 3 marks)**

Q16

Leave blank

**17.** A family of 2 adults and 3 children went on holiday to Miami.
They travelled from London by plane.

Adult plane tickets cost £459 each.
Child plane tickets cost £289 each.

(a) Work out the **total** cost of the plane tickets for the 2 adults and 3 children.

2 adults = 459 x 2
3 children = 289 x 3
Total = 459 x 2 + 289 x 3

£ 1785
**(2)**

The family visited a theme park.
They paid a total of 322 dollars to go in.

The exchange rate was £1 = 1.84 dollars.

(b) Change 322 dollars to pounds (£).

£1 → 1.84 $
? → 322
322 ÷ 1.84 = 175

£ 175
**(2)**

The distance from London to Miami is 7120 km.
The plane journey took 8 hours.

(c) Calculate the average speed of the plane.

(D = distance ; T = Time)

$S = \frac{D}{T} = \frac{7120}{8}$
$= 890$

890 km/h
**(2)**

**(Total 6 marks)**

Q17

Leave blank

**18.** This rule is used to work out the number of points a team gets.

| Number of points | = | Number of games won × 3 | + | Number of games drawn |
|---|---|---|---|---|

Rovers have won 8 games and drawn 2 games.

(a) How many points have Rovers got?

Number of points = $8 \times 3 + 2$
$= 24 + 2$

26 points
**(2)**

Grangers have got 42 points.
They have drawn 6 games.

(b) How many games have Grangers won?

42 points = Number of games won $\times 3$ + Number of games drawn ($= 6$)

Number of games won $= \frac{42 - 6}{3}$

$= 12$

12 games
**(2)** **Q18**

**(Total 4 marks)**



N 3 7 8 3 2 A 0 1 6 2 4

Leave blank

**19.**

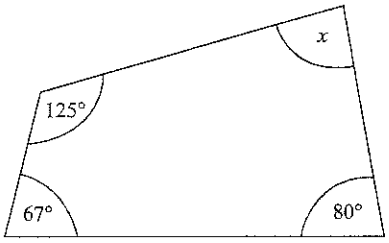



Diagram **NOT** accurately drawn

$x + 125 + 80 + 67 = 360$

(a) (i) Work out the size of the angle marked $x$.

$x = 360 - (125 + 80 + 67)$

$= 88$

$x =$ 88 °

(ii) Give a reason for your answer.

Angles in a quadrilateral add up to 360°

**(3)**

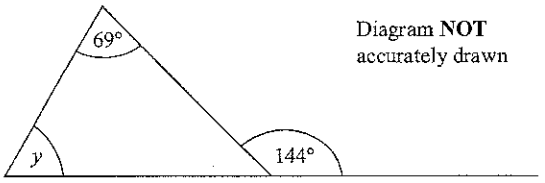



Diagram **NOT** accurately drawn

(b) (i) Work out the size of the angle marked $y$.

$y + 69 = 144$

$y = 144 - 69$

$= 75$

$y =$ 75 °

(ii) Give a reason for your answer.

Exterior angle of a triangle is equal to the sum of the interior opposite angles.

**(3)**

**(Total 6 marks)**

Q19

OR


$180 - 144 = 36$

$y = 180 - 69 - 36$

$= 75°$

Leave blank

**20.** 100 people played sport on Sunday.
Each person played only one sport.

The two-way table shows some information about which sport they played.

| | Football | Tennis | Rugby | Netball | Total |
|---|---|---|---|---|---|
| **Men** | 24 | 12 | 10 | 8 | 54 |
| **Women** | 20 | 9 | 6 | 11 | 46 |
| **Total** | 44 | 21 | 16 | 19 | 100 |

(a) Complete the two-way table.

**(3)**

(b) How many women played football?

20

**(1)**

(c) How many people did **not** play rugby?

100 − 16 = 84

84

**(1)**

**(Total 5 marks)**

Q20

**21.** Use your calculator to work out

$$\frac{13.7 + 5.86}{2.54 \times 3.17}$$

Write down all the figures on your calculator display.
You must give your answer as a decimal.

(13.7 + 5.86) ÷ (2.54 × 3.17) =

2.429270474

**(Total 2 marks)**

Q21

Leave blank

**22.**

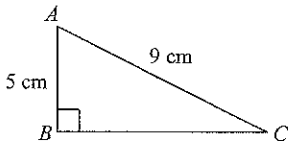



Diagram **NOT** accurately drawn

*ABC* is a right-angled triangle.
*AB* = 5 cm,
*AC* = 9 cm.

Work out the length of *BC*.
Give your answer to 2 decimal places.

Pythagoras theorem:

$AC^2 = AB^2 + BC^2$

$BC^2 = AC^2 - AB^2$

$BC = \sqrt{9^2 - 5^2}$

$BC = \sqrt{81 - 25}$

$BC = \sqrt{56}$

$BC = 7.483$

7.48 cm

**(Total 3 marks)**

Q22

**23.** Noah got 8 out of 20 in a test.

Write 8 out of 20 as a percentage.

$\frac{8}{20} \times 100 = 8 \times 5$

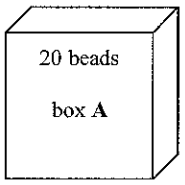
40 %

**(Total 2 marks)**

Q23

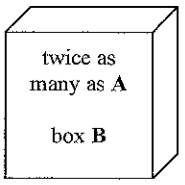
Leave blank

**24.** There are 20 beads in box **A**.



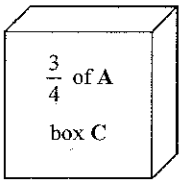

In box **B** there are twice as many beads as in box **A**.

$20 \times 2 = 40$




In box **C** there are $\frac{3}{4}$ of the number of beads as in box **A**.

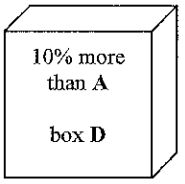
$\frac{3}{4} \times 20 = 3 \times 5 = 15$




In box **D** there are 10% **more** beads than in box **A**.

10% of 20 = 2

$2 + 20 = 22$




Work out the **total** number of beads in the four boxes.

Total = $40 + 15 + 22 + 20$
B C D A

97 beads

**(Total 4 marks)**

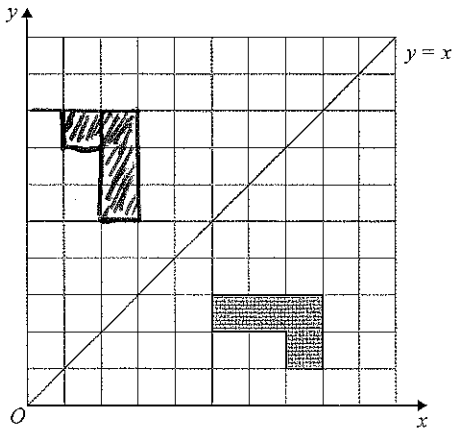
Q24



N 3 7 8 3 2 A 0 2 0 2 4

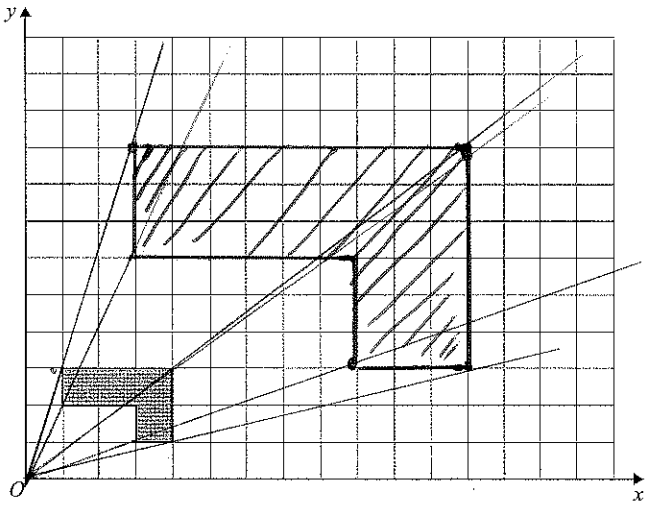
Leave blank

**25.**




(a) Reflect the shaded shape in the line $y = x$.

**(2)**




(b) On the grid, enlarge the shaded shape by a scale factor of 3, centre $O$.

**(3)**

Q25

**(Total 5 marks)**

Leave blank

**26.** 200 students in Year 11 took a mathematics test.
Kamini wants to find out whether students in Year 11 like mathematics.

For her sample she asks the 20 students who got the highest marks in the test.

This is **not** a good sample to use.

(a) Write down **one** reason why.

The sample is not representative of the 200 students (too small).

**(1)**

She uses this question on her questionnaire.

What do you think of mathematics?

☐ Excellent ☐ Very good ☐ Good

(b) Write down **one** thing that is wrong with this question.

Not specific enough -

**(1)**

Kamini also wants to find out how many hours students spend on their mathematics homework.

(c) Design a suitable question that Kamini could use on her questionnaire.
You must include some response boxes.

How many hours do you spend on your h/w per week?

☐ 0 hrs ☐ 1-2 hrs ☐ 3 or more hrs

**(2)**

**(Total 4 marks)**

Q26

Leave blank

**27.** (a) Solve $2x + 3 = 10$

$2x + 3 - 3 = 10 - 3$

$2x = 7$

$x = \frac{7}{2}$

$x =$ 3.5

**(2)**

(b) Simplify

(i) $c^5 \times c^6$ $c^{5+6} = c^{11}$

$c^{11}$

(ii) $e^{12} \div e^4$ $e^{12-4} = e^8$

$e^8$

**(2)**

(c) Simplify fully $7x - 2(x - 3y) - 4y$

$7x - 2x + 2 \times 3y - 4y$

$7x - 2x + 6y - 4y$

$5x + 2y$

$5x + 2y$

**(3)** Q27

**(Total 7 marks)**

**TOTAL FOR PAPER: 100 MARKS**

**END**

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