

Centre No.						Paper Reference						Surname	Initial(s)	
Candidate No.						1	3	8	0	/	2	F	Signature	

Paper Reference(s)

1380/2F

Edexcel GCSE

Mathematics (Linear) – 1380

Paper 2 (Calculator)

Foundation Tier



Monday 14 November 2011 – 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 29 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 π button, take the value of π 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.

This publication may be reproduced only in accordance with Edexcel Limited copyright policy.
©2011 Edexcel Limited.

Printer's Log. No.

P40087A

W850/R1380F/57570 6/6/6



Turn over

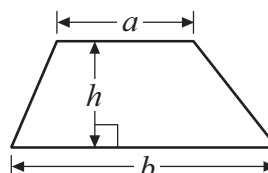
edexcel 
advancing learning, changing lives

GCSE Mathematics (Linear) 1380

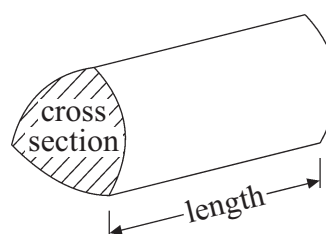
Formulae: Foundation Tier

**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 $\times$ length



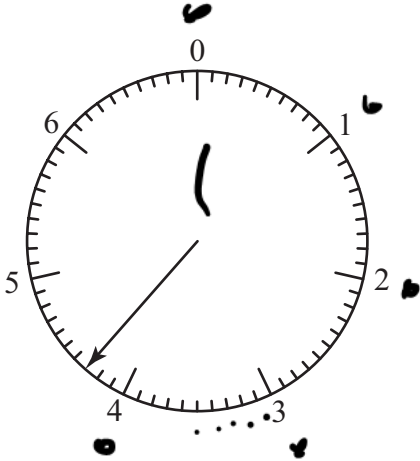
Leave
blank

Answer ALL TWENTY NINE questions.

Write your answers in the spaces provided.

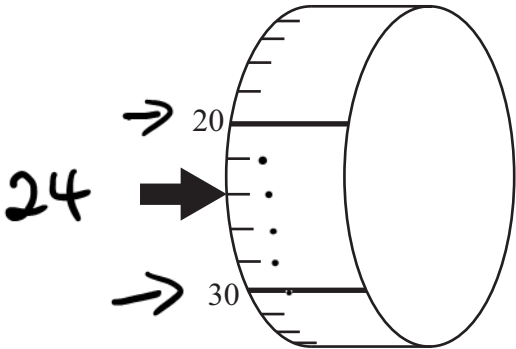
You must write down all stages in your working.

1.



(a) Write down the number shown by the arrow.

4.3
.....
(1)



(b) Write down the number shown by the arrow.

24
.....
(1)

Q1

(Total 2 marks)



Leave
blank

2. A television programme started at 17 55
The programme was 1 hour 20 minutes long.

(i) At what time did the programme end?

$$\begin{array}{r} 17\ 55 \\ +1\text{ hr } 18\ 55 \\ +20\text{ min } 19\ 15 \end{array}$$

19 15

Mumtaz started to watch this programme at 18 34

(ii) How many minutes of the programme did Mumtaz miss?

$$\begin{array}{r} 17\ 55 \\ 18\ 00 \\ 18\ 34 \end{array}$$

5 mins
34 mins

39

..... minutes

(Total 3 marks)

Q2

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

$$\begin{array}{cccc} 13.1 & 0.89 & 1.2 & 7.01 \\ \hline \end{array}$$

0.89, 1.2, 7.01, 13.1

(1)

- (b) Write these numbers in order of size.
Start with the smallest number.

$$\begin{array}{ccccc} 2 & -8 & 6 & 0 & -3 \\ \hline \end{array}$$

-8, -3, 0, 2, 6

(1)

$$15 - 4 \times (2 + 1) = 3$$

- (c) Put brackets in the calculation above to make it correct.

$$\begin{array}{l} 15 - 4 \times 3 \\ 15 - 12 = 3 \end{array}$$

13
-
4
= 9
3

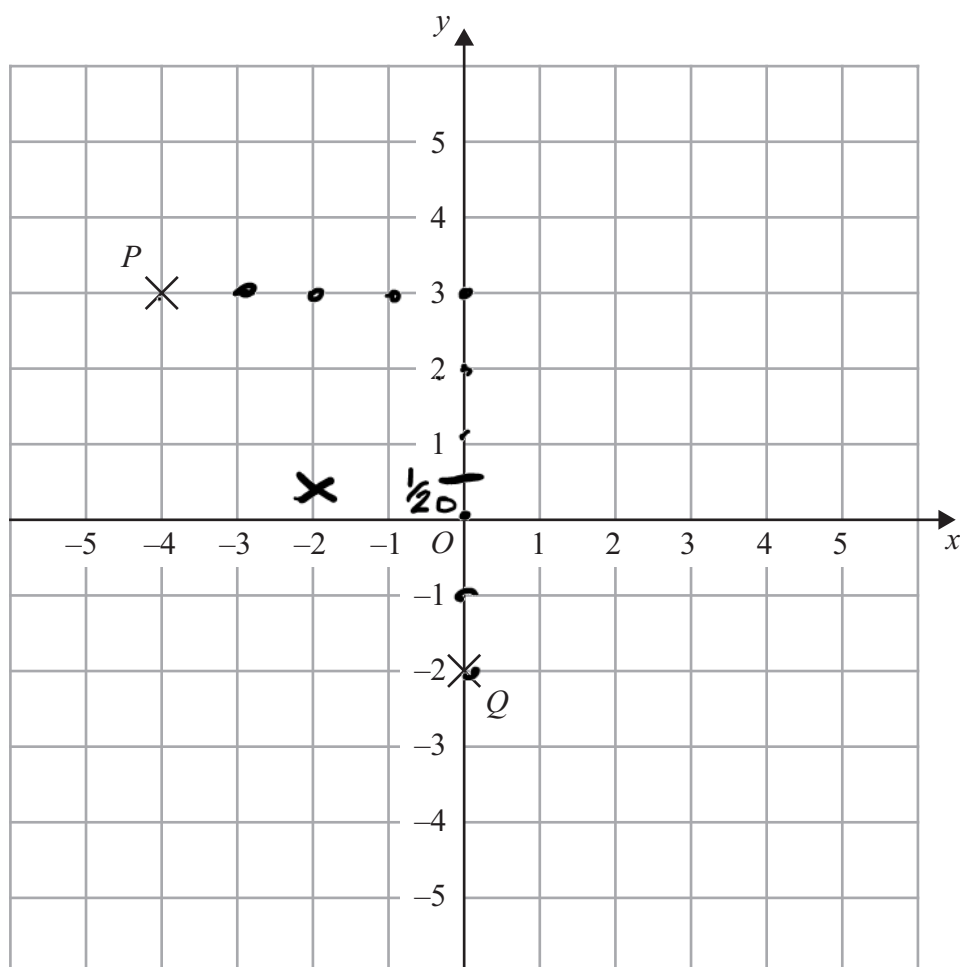
(1)

(Total 3 marks)

Q3



4.

(a) (i) Write down the coordinates of the point P .

$(-4, 3)$

(ii) Write down the coordinates of the point Q .

$(0, -2)$
(2)

(b) Find the coordinates of the midpoint of PQ .

$(-2, 1/2)$
(2)

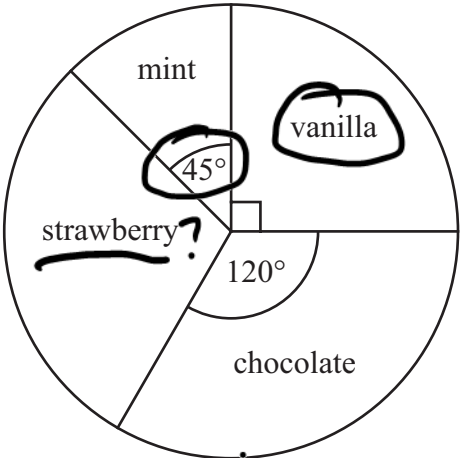
(Total 4 marks)

Q4



Leave blank

5. Some children were asked to name their favourite flavour of ice cream. The pie chart and table show some information about their answers.



$12 \times 4 = 48$

$90^\circ = \frac{1}{4}$

Use the pie chart to complete the table.

Flavour	Number of children	Angle of sector
vanilla	12	90°
mint	6	45°
strawberry	14	105°
chocolate	16	120°

$12 + 6 = 18$
 $18 + 14 = 32$
 $32 + 16 = 48$

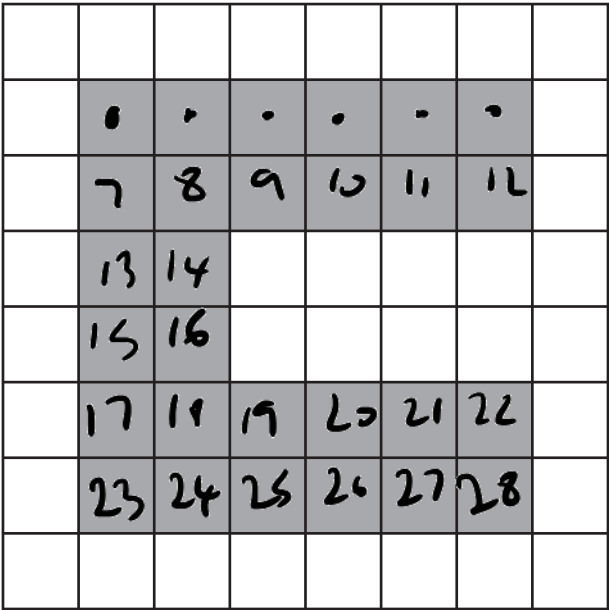
(Total 3 marks)

Q5



Leave
blank

6. The shaded shape is drawn on a grid of centimetre squares.



Find the area of the shaded shape.

28cm²

(Total 2 marks)

Q6

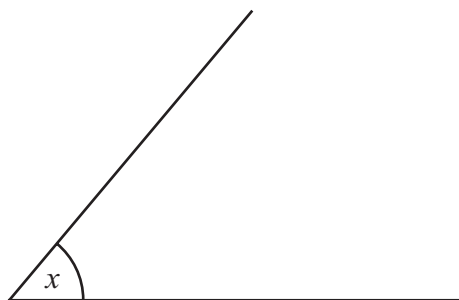


Leave
blank

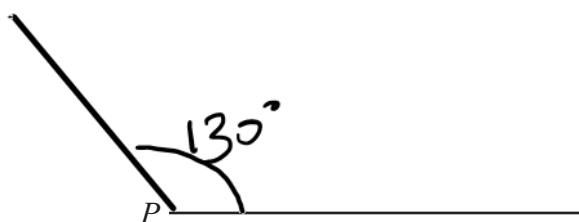
7.


(a) Measure the length of the line AB .

..... 8 cm
(1)

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

..... 50 °
(1)

(c) In the space below, draw an angle of 130° at P .

(1)

Q7

(Total 3 marks)



Leave
blank

8. The table shows which countries the World Snooker champions came from for the years 1992 to 2009

Year	Country	Year	Country	Year	Country
1992	Scotland	1998	Scotland	2004	England
1993	Scotland	1999	Scotland	2005	England
1994	Scotland	2000	Wales	2006	Scotland
1995	Scotland	2001	England	2007	Scotland
1996	Scotland	2002	England	2008	England
1997	Ireland	2003	Wales	2009	Scotland

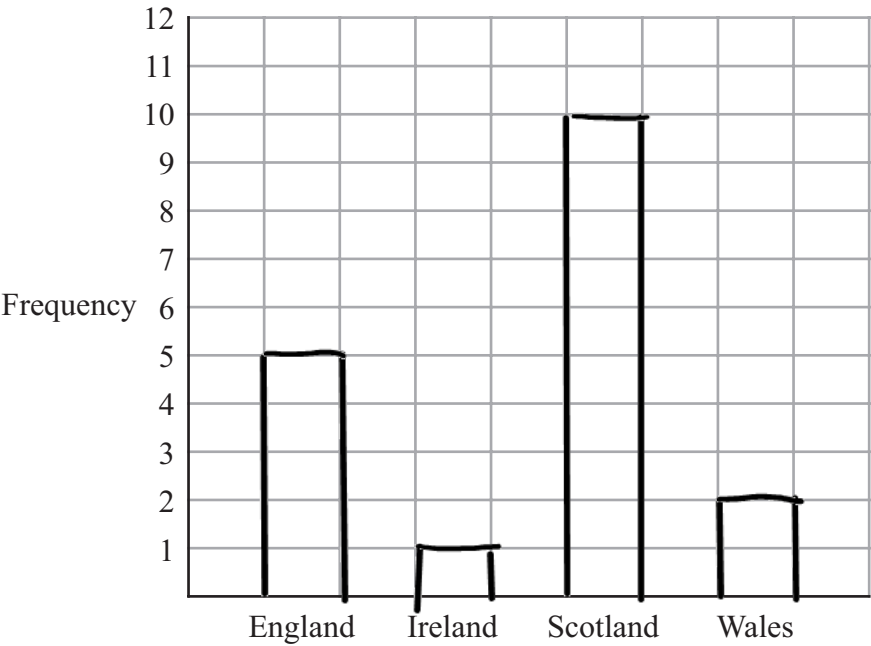
(a) Complete the tally chart to show this information.

0 →

Country	Tally	Frequency
England		5
Ireland		1
Scotland		10
Wales		2

18 (2)

(b) On the grid, draw a bar chart to show this information.



(2) Q8

(Total 4 marks)



Leave
blank

9. (a) Write down the fraction of the shape that is shaded.

1.	2.	.	.	.	.
3.	4	5	.	.	.

9

- (b) Change
- $\frac{3}{8}$
- to a decimal.

$$3 \times 0.125$$

$$\frac{1}{4} = 0.25$$

$$\frac{1}{8} = 0.125$$

$$\begin{array}{r} 5 \\ \hline 12 \\ \hline 0.125 \\ 0.125 \\ 0.125 \\ \hline 0.375 \\ 0.375 \end{array} \quad (1)$$

Here are some fractions.

$$\frac{3}{8} \quad \frac{5}{12} \quad \frac{7}{24} \quad \frac{1}{6}$$

- (c) Which of these fractions is nearest in size to
- $\frac{1}{4}$
- ?

You must show how you got your answer.

$$\begin{array}{l} \frac{3}{8} = \frac{9}{24} \quad (\times 3) \\ \frac{5}{12} = \frac{10}{24} \quad (\times 2) \\ \frac{1}{6} = \frac{4}{24} \quad (\times 4) \end{array}$$

Common denominator

$$\frac{1}{4} = \frac{6}{24} \quad (\times 6)$$

$$\frac{7}{24}$$

(2)

Q9

(Total 4 marks)

10. (a) Simplify
- $p + p + p + p + p + p = 6 \times p = 6p$

$$\begin{array}{l} 2+2+2+2+2+2 \\ = 6 \times 2 \end{array}$$

$$6p$$

(1)

- (b) Simplify
- $5m - m = 4m$

$$4m$$

(1)

Q10

(Total 2 marks)



Leave
blank

11. The exchange rate to change pounds (£) into US dollars (\$) is £1 = \$1.50 15

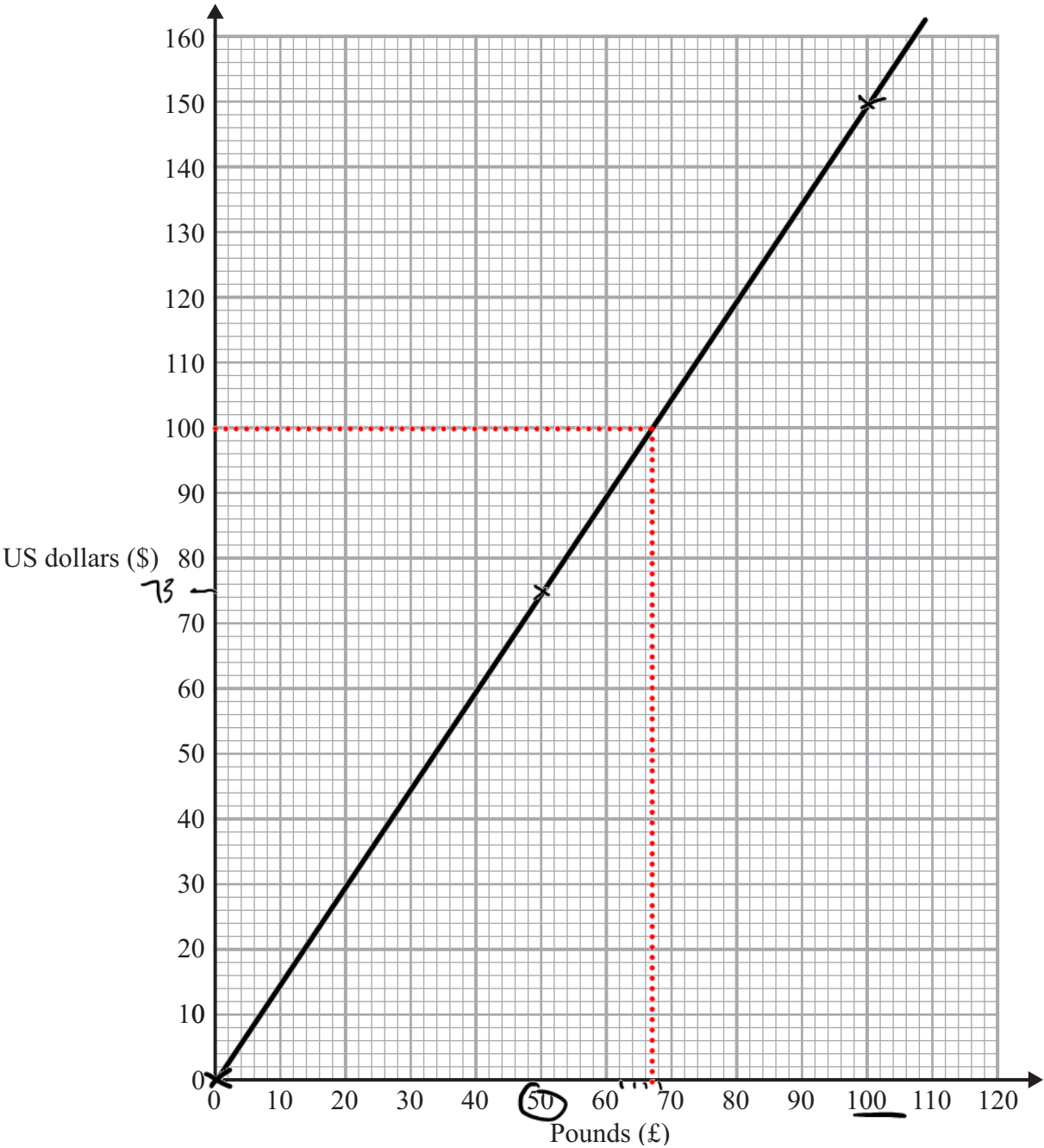
$$\begin{array}{r} \times 5 \\ 15 \\ \hline 75 \end{array}$$

(a) Use this exchange rate to complete the table below.

Pounds (£)	0	1	2	5	10	20	50	100
US dollars (\$)	0	1.50	3.00	7.50	15.00	30	75.00	150

(2)

(b) On the grid, draw a conversion graph for converting between pounds and US dollars.



(2)

(c) Change \$100 into pounds (£).

£ 67

(2)

(Total 6 marks)

Q11



Leave
blank

12. The lengths, in minutes, of 10 football matches were

¹95 ²91 ³98 ⁴93 ⁵93 ⁶90 ⁷92 ⁸99 ⁹97 ¹⁰93

(a) Write down the mode.

MODE = MOST

93

(1)

(b) Find the range.

Range = Biggest - Smallest
 = 99 - 90 = 9

9

(2)

(c) Work out the mean.

$95 + 91 + 98 + 93 + 93 + 90 + 92 + 99 + 97 + 93 = 941$ minutes
 $941 \text{ mins} \div 10$

94.1 minutes

(2)

Q12

(Total 5 marks)

13. (a) Solve $4x = 20$

$4x = 20$
 $\downarrow \div 4$
 $x = 5$

$x = 5$
 (1)

(b) Solve $\frac{y}{3} = 9$

$\frac{y}{3} = 9$
 $\downarrow \times 3$
 $y = 27$

$y = 27$
 (1)

Q13

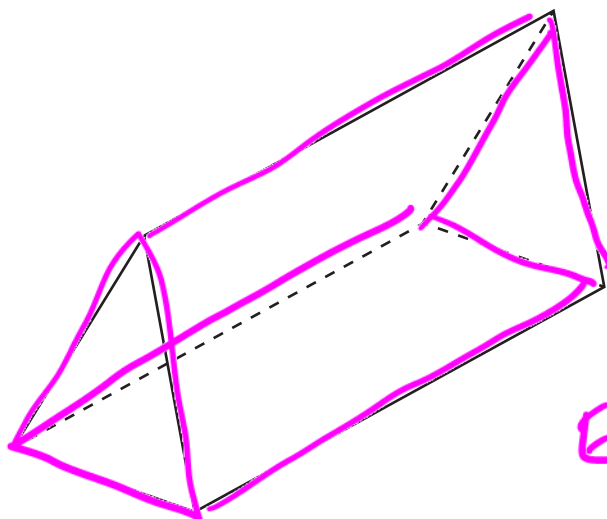
(Total 2 marks)

$(\times 3)$ y



Leave
blank

14. The diagram shows a solid prism.

Diagram NOT
accurately drawnVertices are
the corners!

Euler's Theorem

$$V + F = E + 2$$

$$6 + 5 = 9 + 2 \quad \checkmark$$

Write down

(i) the number of vertices

6

(ii) the number of faces

5

(iii) the number of edges

9

Q14

(Total 3 marks)

15. Ron bought 3 kg of potatoes and 2 kg of carrots.
The total cost was £5.08Potatoes cost £1.24 per kg.

Work out the cost of 1 kg of carrots.

$$3 \times 1.24 = 3.72$$

Total £5.08

cost of
potatoes - £3.72

£1.36

→ cost of 2 kgs of
carrots

1 kg of carrots costs £1.36 ÷ 2 = 68p

Q15

(Total 3 marks)



Leave
blank

16. The two-way table gives some information about the types of holiday 80 people had.

	Caravan	Camping	Hotel	Total
Adult	15	6	28	49
Child	8	19	4	31
Total	23	25	32	80

Complete the two-way table.

$$\begin{array}{r} 23 \\ + 25 \\ \hline 48 \end{array}$$

$$\begin{array}{r} 80 \\ - 48 \\ \hline 32 \end{array}$$

$$\begin{array}{r} 15 \\ + 6 \\ + 28 \\ \hline 49 \end{array}$$

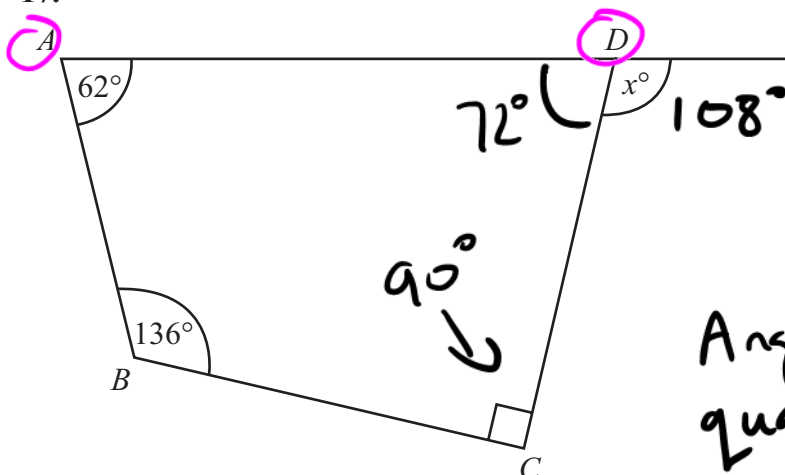
$$\begin{array}{r} 8 \\ + 19 \\ + 4 \\ \hline 31 \end{array}$$

$$\begin{array}{r} 49 \\ + 31 \\ \hline 80 \end{array}$$

(Total 3 marks)

Q16

17.

Diagram NOT
accurately drawn

- ABCD is a quadrilateral.
→ ADE is a straight line.

Work out the value of x .

Angles on a straight line = 180°

$$\begin{array}{r} 180^\circ \\ - 72^\circ \\ \hline 108^\circ \end{array}$$

Angles in a quadrilateral = 360°

$$\begin{array}{r} 360^\circ \\ - 62^\circ \\ - 136^\circ \\ - 90^\circ \\ \hline 72^\circ \end{array}$$

$$x = 108^\circ$$

(Total 3 marks)

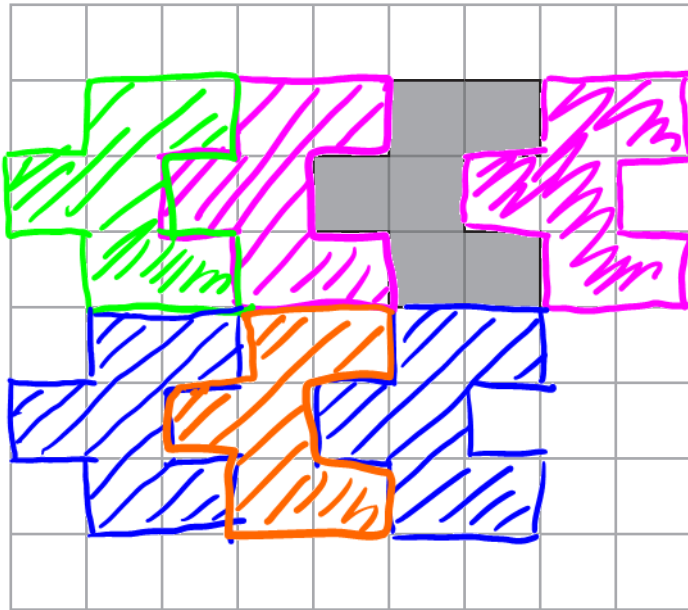
Q17



Leave
blank

18. On the grid, show how this shape tessellates.

You need to draw at least 6 shapes.



Q18

(Total 2 marks)

19. (a) Use your calculator to work out

$$\frac{\sqrt{21.5}}{5.8 - 2.36}$$

Write down all the figures on your calculator display.

$$(\sqrt{21.5}) \div (5.8 - 2.36) =$$

5 or more
less than 5?

$$1.347909665$$

(2)

(b) Write down your answer to part (a) correct to 2 decimal places.

$$1.35$$

(1)

Q19

(Total 3 marks)



Leave
blank

20. Ishmal invested £3500 for 3 years at 2.5% per annum simple interest.

Work out the total amount of interest Ishmal earned.

$$3500 \times 0.025 = \underline{\underline{87.50}}$$

$$87.50 \times 3 = \underline{\underline{262.50}}$$

£ 262.50

Q20

(Total 3 marks)

21. (a) (i) Find all the factors of 30

$$1 \times 30 = 30 \quad 6 \times 5 = 30$$

$$2 \times 15 = 30$$

$$3 \times 10 = 30$$

1, 2, 3, 5, 6, 10, 15, 30

(ii) Find the highest common factor (HCF) of 24 and 30

$$1 \times 24 = 24 \quad 1, 2, 3, 4, 6, 8, 12, 24$$

$$2 \times 12 = 24$$

$$3 \times 8 = 24$$

$$4 \times 6 = 24$$

6

(3)

(b) Find the lowest common multiple (LCM) of 4, 5 and 6

4 8 12 16 20 24 28 32 36 40 44 48 52 56 60

5 10 15 20 25 30 35 40 45 50 55 60

6 12 18 24 30 36 42 48 54 60

60

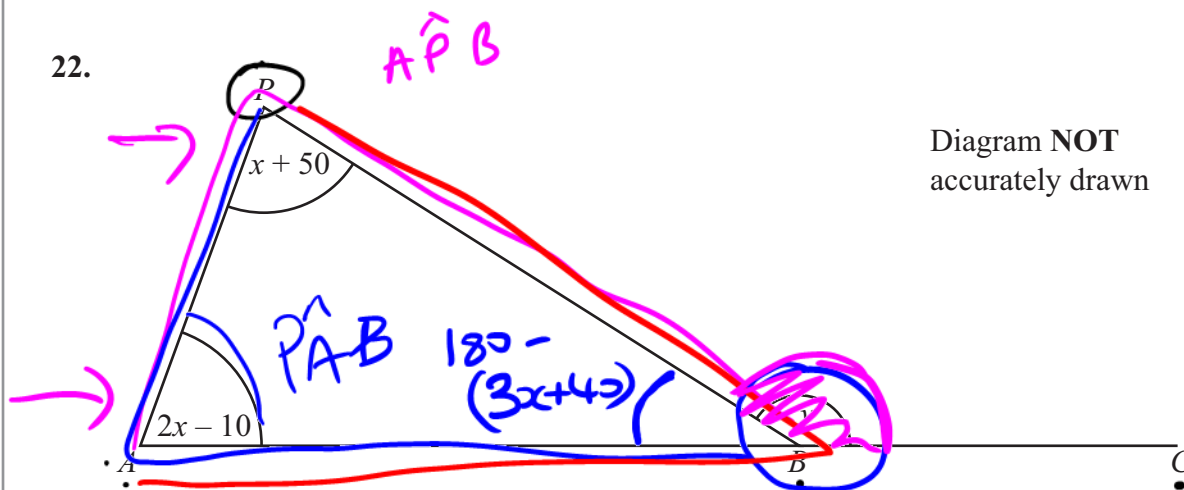
(2)

Q21

(Total 5 marks)



22.

Diagram NOT
accurately drawn

All angles are measured in degrees.

 ABC is a straight line.Angle $APB = x + 50$ Angle $PAB = 2x - 10$ Angle $PBC = y$ (a) Show that $y = 3x + 40$

Give reasons for each stage of your working.

Angles in $\Delta = 180$

$$\begin{aligned} (x+50) + (2x-10) \\ = x+50+2x-10 \\ = \underline{3x+40} \end{aligned}$$

Exterior angle
of a Δ
= sum of the
2 opposite
angles

$$\begin{aligned} \hat{A}BP &= 180 - (3x+40) \\ &= 180 - 3x - 40 \\ &= \underline{140 - 3x} \end{aligned}$$

Angles on straight line = 180 so $\hat{A}BP + y = 180$ (3)

(b) Given that $y = 145$,(i) work out the value of x ,

$$\begin{aligned} y &= 3x + 40 \\ 145 &= 3x + 40 \\ (-40) \quad 105 &= 3x \\ (\div 3) \quad x &= 35 \end{aligned}$$

$$\begin{aligned} \therefore y &= 180 - \hat{A}BP \\ &= 180 - (140 - 3x) \\ &= 180 - 140 + 3x \\ y &= 40 + 3x = \underline{3x + 40} \end{aligned}$$

$$x = \underline{35}$$

(ii) work out the size of the largest angle in triangle ABP .

$$x + 50 = 35 + 50 = \underline{85}$$

$$2x - 10 = (2 \times 35) - 10 = 70 - 10 = 60$$

$$\begin{aligned} \text{3rd angle} &= 180 - (85 + 60) \\ &= 180 - (145) = 35 \end{aligned}$$

$$\underline{85}^\circ$$

(4)

Q22

(Total 7 marks)



Leave
blank

23. Work out the value of $\frac{6^5 \times 6^2}{6^4} = \frac{6^7}{6^4} = 6^3$

Give your answer as a power of 6

$$6^5 \times 6^2 = 6^{5+2} = 6^7$$

$$6^7 \div 6^4 = 6^{7-4} = 6^3$$

$$6^3$$

Q23

(Total 2 marks)

24. $-2 \leq n < 5$
 n is an integer.

(a) Write down all the possible values of n .

$$-2 \leq n \quad n < 5$$

$$-2, -1, 0, 1, 2, 3, 4$$

(2)

(b) Expand and simplify $(x+5)(x-3)$

x	x	-3
x	x^2	$-3x$
$+5$	$5x$	-15

$$x^2 - 3x + 5x - 15$$

$$= x^2 + 2x - 15$$

$$x^2 + 2x - 15$$

(2)

Q24

(Total 4 marks)



Leave
blank

25. Mandy needs a permit to fish in her local river.
Last year, Mandy paid £140 for a permit.
This year the cost of the permit increased by 12%.

$$12\% = 0.12$$

- (a) Work out the cost of the permit for this year.

Multiplier

$$1 + 0.12 = 1.12$$

$$£140 \times 1.12 = £156.80$$

$$£140$$

$$10\% \quad 14$$

$$1\% \quad 1.40$$

$$12\% = 14 + 1.40 + 1.40 = 16.80$$

$$140.00$$

$$16.80$$

$$£156.80$$

$$£156.80$$

(3)

The largest fish Mandy caught last year weighed 11 kg correct to the nearest kg.

- (b) (i) Write down the smallest possible weight of this fish.

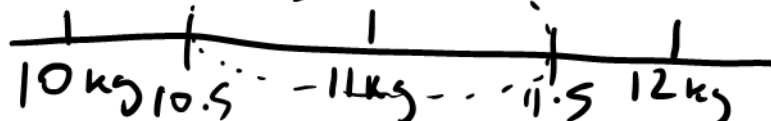
$$11 - 0.5$$

to nearest kg $\underline{11\text{kg}} \div 2 = 0.5\text{kg}$

$$= 10.5 \text{ kg}$$

- (ii) Write down the largest possible weight of this fish.

$$11 + 0.5 = 11.5$$



(2)

Q25

(Total 5 marks)

26. Melissa is 13 years old.
Becky is 12 years old.
Daniel is 10 years old.

$$M : B : D$$

$$13 : 12 : 10$$

$$13 + 12 + 10 = 35$$

Melissa, Becky and Daniel share £28 in the ratio of their ages.

Becky gives a third of her share to her mother.

How much should Becky now have?

$$\text{one share} = 28 \div 35$$

$$= 80\text{p or } £0.80$$

Becky gets

$$£0.80 \times 12 = £9.60$$

↓

mum

$$9.60 \div 3 = 3.20$$

keeps

$$\begin{array}{r} 9.60 \\ - 3.20 \\ \hline 6.40 \end{array}$$

$$£6.40$$

Q26

(Total 4 marks)



27. Gary wants to find out how much time teenagers spend listening to music.

He uses this question on a questionnaire.

How many hours do you spend listening to music?

☐	☐	☐	☐
1 to 5	5 to 10	10 to 20	over 20

(a) Write down two things wrong with this question.

- 1 overlapping categories. It is not clear which box to tick if you listen to 5 hours of music.
- 2 No timespan given. It is clear whether he means per week, month or year!
- ③ no option given for not listening to music (2)

(b) Design a better question for Gary's questionnaire to find out how much time teenagers spend listening to music.

How many hours PER WEEK do you spend listening to music?

☐	☐	☐	☐	☐
none	upto	6-10	11-15	more than
↑	5hrs	hrs	hrs	15 hrs
	per week	per wk	per week	per week.

(2)

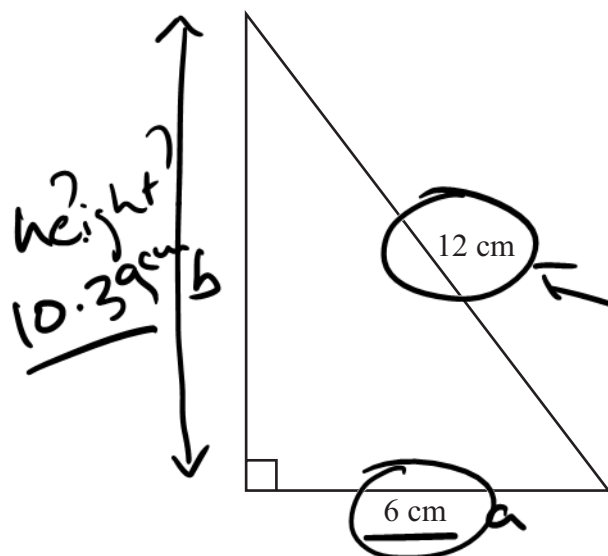
Q27

(Total 4 marks)



28. The diagram shows a right-angled triangle.

Diagram NOT
accurately drawn



$$\text{Area of } \triangle = \frac{1}{2} b h$$

Pythagoras Theorem

$$c^2 = a^2 + b^2$$

- Calculate the area of the right-angled triangle.
Give your answer correct to 2 decimal places.

$$12^2 = 6^2 + b^2$$

$$144 = 36 + b^2$$

$$b^2 = 144 - 36$$

$$= 108$$

$$\text{height} = \sqrt{108}$$

$$= 10.39230485$$

$$(10.39 \dots \times 6) \div 2 = 31.17691454$$

$$= 31.18 \text{ cm}^2$$

↑ ↑
5 or more

$$31.18 \text{ cm}^2$$

(Total 4 marks)

Q28



29. The diagram shows a CD.
The CD is a circle of radius 6 cm.

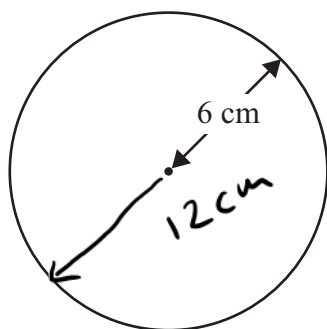


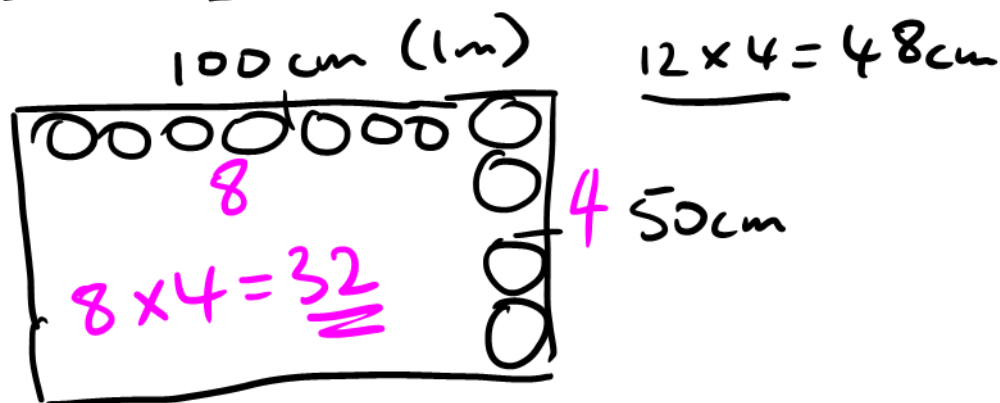
Diagram NOT
accurately drawn

$$C = \pi d$$

$$A = \pi r^2$$

CDs of this size are cut from rectangular sheets of plastic.
Each sheet is 1 metre long and 50 cm wide.

Work out the greatest number of CDs that can be cut from one rectangular sheet.



32

Q29

(Total 2 marks)

TOTAL FOR PAPER: 100 MARKS

END



BLANK PAGE



BLANK PAGE

