Write your name here

Surname	Other names
Answers	

Grade One and Two Paper
Level 1 / Level 2
GCSE (9–1)

Centre Number | | | | | |

Candidate Number | | | | |

Mathematics Paper D

Grade One and Two

Exam Revision

Paper Reference
Grade 1-3

You must have: Ruler graduated in centimetres and millimetres, protractor, pair of compasses, pen, HB pencil, eraser. Tracing paper may be used.

Total Marks
115

Instructions

- Use **black** ink or ball-point pen.
- **Fill in the boxes** at the top of this page with your name, centre number and candidate number.
- Answer **all** questions.
- Answer the questions in the spaces provided
  – *there may be more space than you need.*
- You must **show all your working**.
- Diagrams are **NOT** accurately drawn, unless otherwise indicated.
- **Calculators may not be used.**

Information

- The total mark for this paper is 115
- The marks for **each** question are shown in brackets
  – *use this as a guide as to how much time to spend on each question.*

Advice

- Read each question carefully before you start to answer it.
- Keep an eye on the time.
- Try to answer every question.
- Check your answers if you have time at the end.

Q1 Write 55% as a decimal

0·55

(1)

Q2 Write 75% as a decimal

0·75

(1)

Q3 Write 35% as a decimal

0·35

(1)

Q4 Write 45% as a decimal

0·45

(1)

Q5 Write 8% as a decimal

0·08

(1)

Q6 Write 6% as a decimal

0·06

(1)

Q7 Write 12% as a decimal

0·12

(1)

Q8 Write 5% as a decimal

0·05

(1)

Q9 Here are the first four even numbers.

2 4 6 8

Find the 8th even number

16

2 × 8 = 16

(1)

Q10 Here are the first four even numbers.

2 4 6 8

Find the 14th even number

$2 \times 14 = 28$

28

(1)

Q11 Here are the first four even numbers.

2 4 6 8

Find the 50th even number

$50 \times 2 = 100$

100

(1)

Q12 Here are the first four even numbers.

2 4 6 8

Find the 10th even number

$10 \times 2 = 20$

20

(1)

Q13 Here are the first four even numbers.

2 4 6 8

Find the 21st even number

$21 \times 2 = 42$

42

(1)

Q14 Here are the first four even numbers.

2 4 6 8

Find the 67th even number

$67 \times 2 = 134$

134

(1)

Q15 Here are the first four odd numbers.

1 3 5 7

Find the 8th odd number

$2 \times 8 = 16$

$16 - 1 = 15$

15

(1)

Q16 Here are the first four odd numbers.

1 3 5 7

Find the 48th odd number

$48 \times 2 = 96$

$96 - 1 = 95$

95

(1)

Q17 Here are the first four odd numbers.

1 3 5 7

Find the 18th odd number

$18 \times 2 = 36$

$36 - 1 = 35$

35

(1)

Q18 Here are the first four odd numbers.

1 3 5 7

Find the 41st odd number

$41 \times 2 = 82$

$82 - 1 = 81$

81

(1)

Q19 Here are the first four odd numbers.

1 3 5 7

Find the 12th odd number

$12 \times 2 = 24$

$24 - 1 = 23$

23

(1)

Q20 Here are the first four odd numbers.

1 3 5 7

Find the 20th odd number

$20 \times 2 = 40$

$40 - 1 = 39$

39

(1)

Q21 Change 25 centimetres into millimetres.

25 x 10 = 250

250 ..... millimetres

(1)

Q22 Change 73 centimetres into millimetres.

73 x 10 = 730

730 ..... millimetres

(1)

Q23 Change 14 centimetres into millimetres.

14 x 10 = 140

140 ..... millimetres

(1)

Q24 Change 19 centimetres into millimetres.

19 x 10 = 190

190 ..... millimetres

(1)

Q25 Change 15 centimetres into millimetres.

15 x 10 = 150

150 ..... millimetres

(1)

Q26 Change 18 centimetres into millimetres.

18 x 10 = 180

180 ..... millimetres

(1)

Q27 Write down a multiple of 6 between 20 and 30.

6 x 4 = 24 or 30

24 .....

(1)

Q28 Write down a multiple of 7 between 30 and 40.

5 x 7 = 35

35 .....

(1)

Q29 Write down a multiple of 3 between 15 and 25.

$5 \times 3 = 15$ $6 \times 3 = 18$ $7 \times 3 = 21$ $8 \times 3 = 24$

15, 18, 21 or 24

(1)

Q30 Write down a multiple of 9 between 20 and 30.

$3 \times 9 = 27$

27

(1)

Q31 Write down a multiple of 8 between 10 and 20.

$2 \times 8 = 16$

16

(1)

Q32 Write down a multiple of 9 between 70 and 80.

$8 \times 9 = 72$

72

(1)

Q33 Work out 400 + 255

$$\begin{array}{r} 400 \\ 255+ \\ \hline 655 \end{array}$$

655

(1)

Q34 Work out 600 + 425

1025

(1)

Q35 Work out 500 + 355

855

(1)

Q36 Work out 800 + 145

945

(1)

Q37 Work out 200 + 155

355

(1)

Q38 Billy hires a car for 8 days.

He pays £52 per day.

He also pays £50 insurance.

Billy pays with thirty £20 notes.

How much change should he get?

$8 \times 52 = 416$

$416 + 50 = 466$

$20 \times 30 = 600$

$600 - 466 = 134$

£ 134

(3)

Q39 Milly hires a dress for 5 days for her prom weekend.

She pays £26 per day.

She also pays £12 insurance.

Milly pays with five £50 notes.

How much change should she get?

$5 \times 26 = 130$

$130 + 12 = 142$

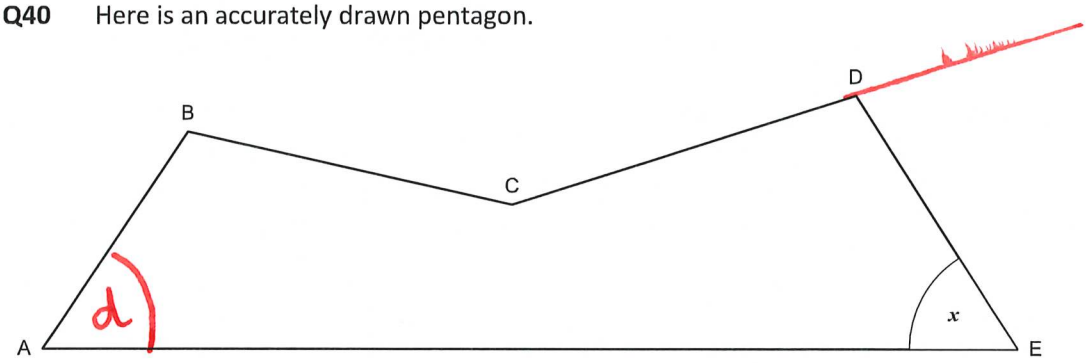
$5 \times 50 = 250$

$250 - 142 = 108$

£ 108

(3)

Q40 Here is an accurately drawn pentagon.



a Measure accurately the length of side CD.

4.8 cm

(1)

b What type of angle is the angle marked x?

Acute

(1)

c Measure the size of the angle marked x.

58°

(1)

d Mark the angle EAB onto the pentagon above.

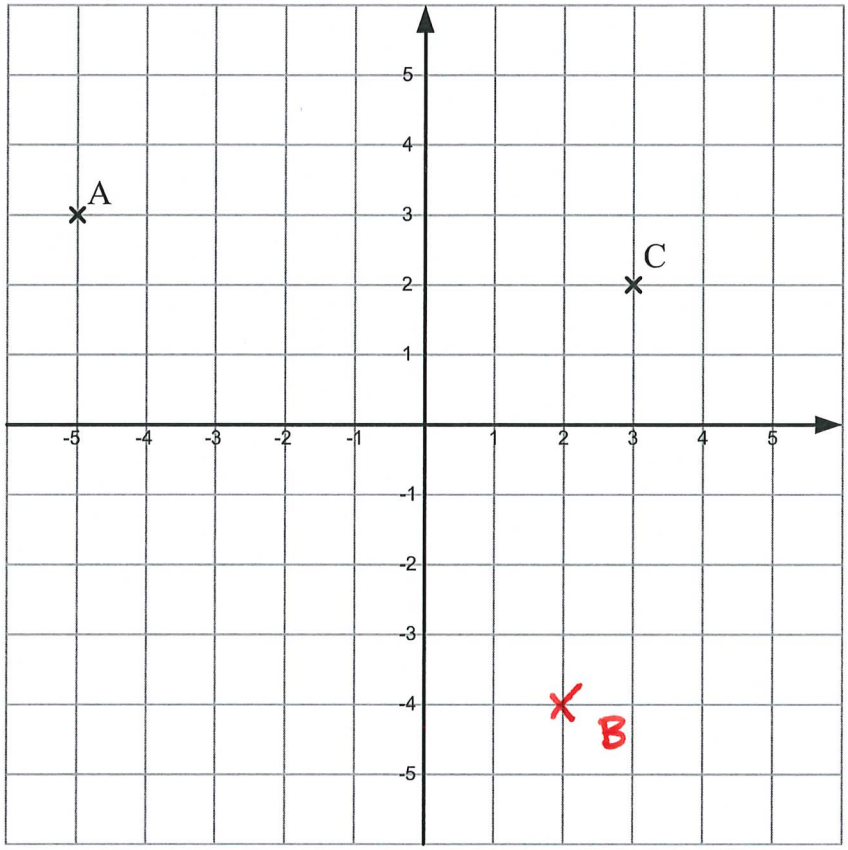
(1)

c Measure the size of the exterior angle CDE.

74°

(1)

Q41



a Write down the co-ordinates of point A.

(-5 , 3)

(1)

b On the grid, mark with a cross the point (2,-4).

Label this point B.

(1)

c Write down the co-ordinates of the midpoint of AC.

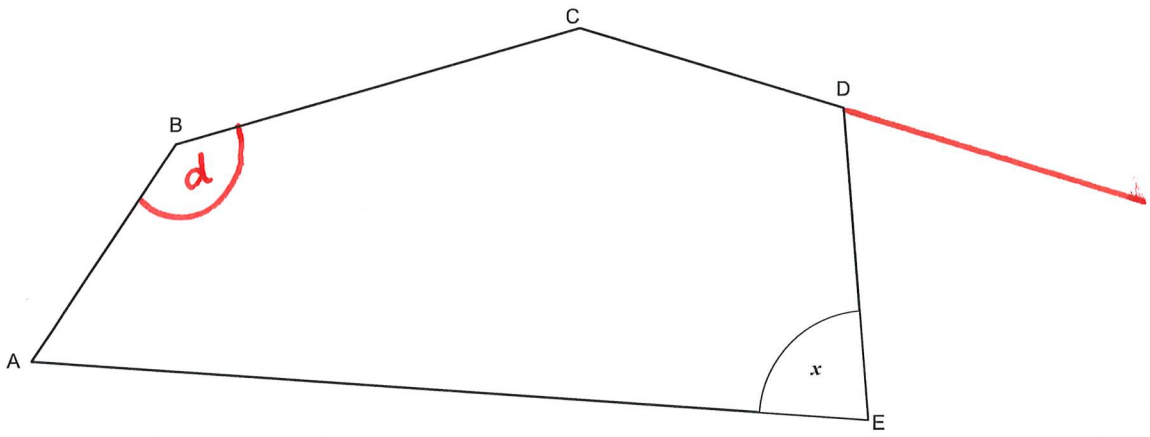
$x: \frac{-5+3}{2} = -1$

$y: \frac{3+2}{2} = 2\frac{1}{2}$

(-1 , $2\frac{1}{2}$)

(1)

Q42 Here is an accurately drawn pentagon.



a Measure accurately the length of side AE.

111 mm

(1)

b What type of angle is the angle marked x?

Acute

(1)

c Measure the size of the angle marked x.

81 °

(1)

d Mark the angle ABC onto the pentagon above.

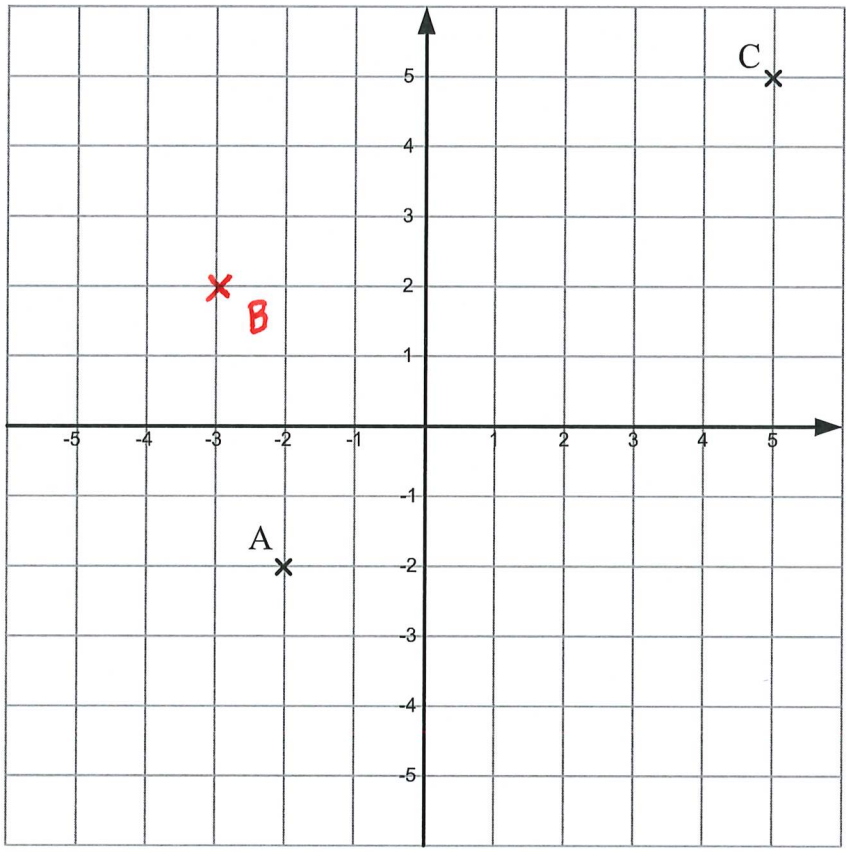
(1)

c Measure the size of the exterior angle CDE.

70 °

(1)

Q43



a Write down the co-ordinates of point A.

(-2 , -2)

(1)

b On the grid, mark with a cross the point (-3,2).

Label this point B.

(1)

c Write down the co-ordinates of the midpoint of AC.

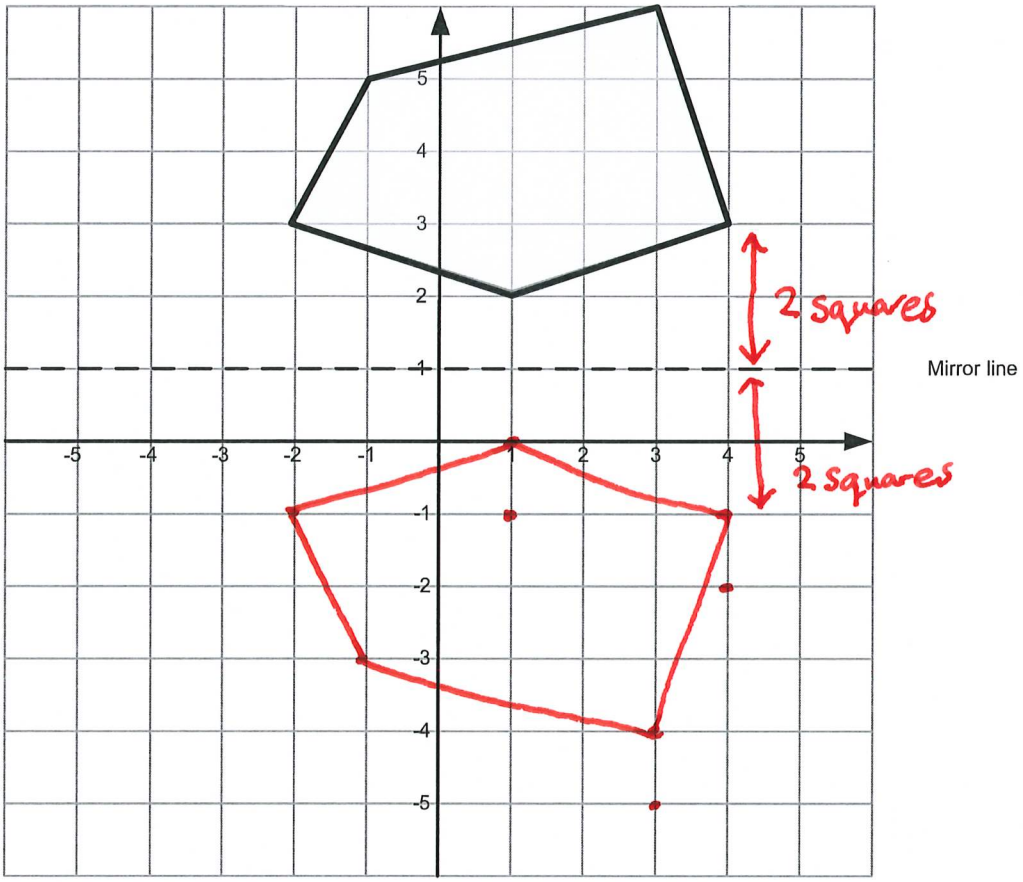
y: $\frac{-2+5}{2} = \frac{3}{2}$

x: $\frac{-2+5}{2} = \frac{3}{2}$

(1½ , 1½)

(1)

Q44



a On the grid, reflect the shape in the mirror line.

(2)

b Write down the equation of the mirror line.

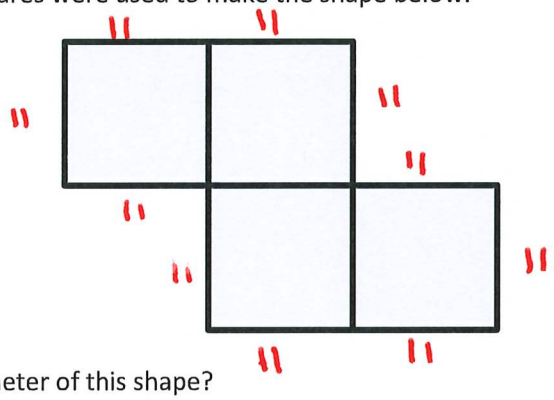
y = 1

(1)

Q45 Here is a square with a perimeter of 44cm.

44 ÷ 4 = 11

Four of these squares were used to make the shape below.



What is the perimeter of this shape?

10 x 11 = 110

110 .....cm

(3)

Q46 A map has a scale of 1:50 000.

On the map, a road is 12cm long.

Work out the real length of the road.

Give your answer in kilometres.

12 x 50 000

= 600 000 cm

6 .....kilometres

(3)

Q47 What number is exactly half way between 17 and 38?

$\frac{17 + 38}{2} = \frac{55}{2} = 27\frac{1}{2}$

27 ½

(1)

Q48 What number is exactly half way between 117 and 144?

$\frac{117 + 144}{2} = \frac{261}{2} = 130\frac{1}{2}$

130 ½

(1)

Q49 What number is exactly half way between -83 and 338?

$\frac{-83 + 338}{2} = \frac{255}{2} = 127\frac{1}{2}$

127 ½

(1)

Q50 What number is exactly half way between -31 and 163?

$\frac{-31 + 163}{2} = \frac{132}{2} = 66$

66

(1)

Q51 A map has a scale of 1:25 000.

On the map, a road is 17cm long.

Work out the real length of the road.

Give your answer in kilometres.

25000×17

$= 425000$

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

$4\frac{1}{4}$ kilometres

(3)

Q52 A map has a scale of 1:25 000.

On the map, a road is 28cm long.

Work out the real length of the road.

Give your answer in kilometres.

28×25000

$= 700,000$

$= 7$ km

.....7.....kilometres

(3)

Q53 A map has a scale of 1:20 000.

On the map, a road is 15cm long.

Work out the real length of the road.

Give your answer in kilometres.

20000×15

$= 300\,000$

$= 3$ km

.....3.....kilometres

(3)

Q54 Simplify the following expressions

a $4x^2y^4z^3 \times 3x^6z^2$

$12x^8y^4z^5$

(2)

b $5x^4y^{-2}z^5 \times 2x^3z^5$

$10x^7y^{-2}z^{10}$

(2)

c $5x^3y^5z^3 \times 4x^3y^3$

$20x^6y^8z^3$

(2)

Q55 600 people were asked what type of film they liked.

340 of the people asked were adults

95 of the adults said they liked romance.

150 of the children said they liked comedy films best.

240 of the people said that they liked crime movies best.

135 of the people said they like romance movies best.

a Complete the two-way table

	Romance	Comedy	Crime	Total
Adults	95	75	170	340
Children	40	150	70	260
Total	135	225	240	600

(3)

b One person was selected at random. Find the probability that that person was a child who like crime films best.

$\frac{70}{600} = \frac{7}{60}$

.....

(2)

c One person was selected at random. Find the probability that that person was an adult who disliked romance films compared to another category.

$\frac{245}{600} = \frac{49}{120}$ .....

(2)

Q56 400 children were in foreign language lessons.

107 Year 11 students selected French.

12 Year 11 students selected Spanish.

Altogether, 29 students chose Spanish.

199 of the students were in Year 10.

196 students from both Years 10 and 11 took French.

a Complete the two-way table

	French	German	Spanish	Total
Year 11	107	82	12	201
Year 10	89	93	17	199
Total	196	175	29	400

(3)

b One person was selected at random. Find the probability that the student selected was in Year 10 and studying French.

$\frac{89}{400}$

.....

(2)

c One person was selected at random. Find the probability that that person was in Year 11 and not studying German.

$\frac{119}{400}$

.....

(2)

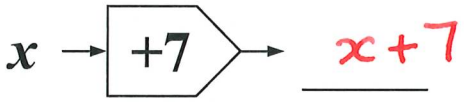
Q57 Look at the function machines below.

Work out the missing quantities.

a

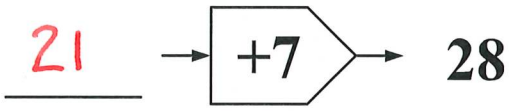
(1)

b



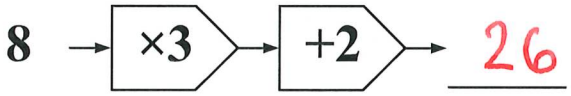
(1)

c



(1)

d

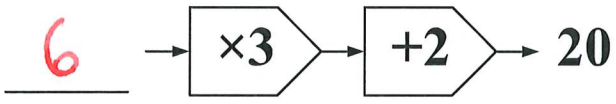


(1)

e

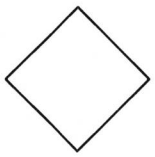
(1)

f

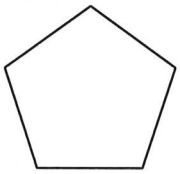


(1)

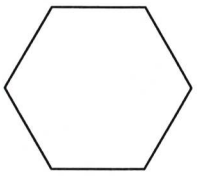
Q58 Write down the mathematical names for these polygons.

a 

Square

b 

pentagon

c 

hexagon

(3)

Q59 Last year, Emily got a quote for her car insurance The quote was for £6,500.

This year, her insurance quote is for 7% less.

Calculate the cost of Emily's insurance quote for this year.

$$\frac{100-7}{100} \times 6500 = \frac{93}{100} \times 6500$$

$$= 93 \times 65$$

$$= £6045$$

£6045

(3)

Q60 Factorise fully $12q^2 - 4q$

$4q(3q-1)$

$4q(3q-1)$

(2)