

Chigwell School

13+ Specimen Paper

Maths

45 Minutes

Full name.....

Current School.....

Instructions:

Answer **ALL** questions.

Correct answers without sufficient working may not be awarded full marks.

Calculators may **NOT** be used.

The total marks available for this paper is **50**

The marks for each question are shown in brackets – *use this as a guide to how much time to spend on each question.*

There are **15** questions.

Q1.

(a) Simplify $t + t + t$

.....
(1)

(b) Simplify $5 \times e \times f$

.....
(1)

(c) Simplify $3x + 8y + x - 2y$

.....
(2)

(Total for question = 4 marks)

Q2.

Samina recorded the maximum temperature and the minimum temperature on each of six days in January. The table shows her results.

| | Mon | Tues | Wed | Thurs | Fri | Sat |
|----------------------------|------------|-------------|------------|--------------|------------|------------|
| Maximum temperature | 1 °C | 3 °C | 2 °C | 0 °C | 3 °C | 4 °C |
| Minimum temperature | - 4 °C | -2 °C | - 4 °C | -5 °C | -3 °C | -2 °C |

(a) Write down the lowest temperature.

..... °C
(1)

(b) Work out the difference between the maximum temperature on Wednesday and the minimum temperature on Wednesday.

..... °C
(1)

The minimum temperature on Sunday was 5 °C higher than the minimum temperature on Saturday.

(c) Work out the minimum temperature on Sunday.

..... °C
(1)

(Total for Question is 3 marks)

Q3.

(a) Work out 30% of 60

.....
(2)

(b) Work out $-15 \div -3$

.....
(1)

(c) Work out the value of $4 + 3 \times (9 - 2)$

.....
(1)

(Total for question = 4 marks)

Q4.

Write these numbers in order of size.
Start with the smallest number.

$\frac{3}{7}$ 41% 0.45 $\frac{2}{5}$ 0.405

.....
(Total for question = 2 marks)

Q5.

(a) Work out $1\frac{3}{4} + 3\frac{1}{2}$

.....
(1)

(b) Work out $\frac{3}{7} \times £28$

£.....
(2)

(c) **Estimate** the value of 19.89×201.71

.....
(2)

(Total for question = 5 marks)

Q6.

$a = 4$

$b = -5$

(a) Work out the value of $2a + 3b$

.....
(2)

$x = 3$

(b) Work out the value of $4x^2$

.....
(1)

(Total for question = 3 marks)

Q7.

Ali, Ben and Candice share £300 in the ratio 2 : 3 : 5

How much money does Candice get?

£

(Total for Question is 2 marks)

Q8.

The timetable shows the times of trains between Fratton and Portsmouth Harbour.

| | | | | |
|--------------------|-------|-------|-------|-------|
| Fratton | 21 55 | 21 58 | 22 08 | 22 19 |
| Southsea | 21 58 | 22 02 | 22 11 | 22 22 |
| Portsmouth Harbour | 22 02 | 22 05 | 22 16 | 22 26 |

John is going to travel by train from Fratton to Portsmouth Harbour to catch a ferry.

The last ferry of the day leaves at 2215

John must allow 8 minutes to get from the train to the ferry.

What is the time of the latest train from Fratton that John can catch?

.....
(Total for question = 2 marks)

Q9.

(a) Solve $5x = 45$

$x = \dots\dots\dots$
(1)

(b) Solve $w - 8 = 20$

$w = \dots\dots\dots$
(1)

(c) Solve $\frac{t}{7} = 5$

$t = \dots\dots\dots$
(1)

(d) Solve $4x - 9 = 41$

$x = \dots\dots\dots$
(2)

(Total for Question is 5 marks)

Q10.

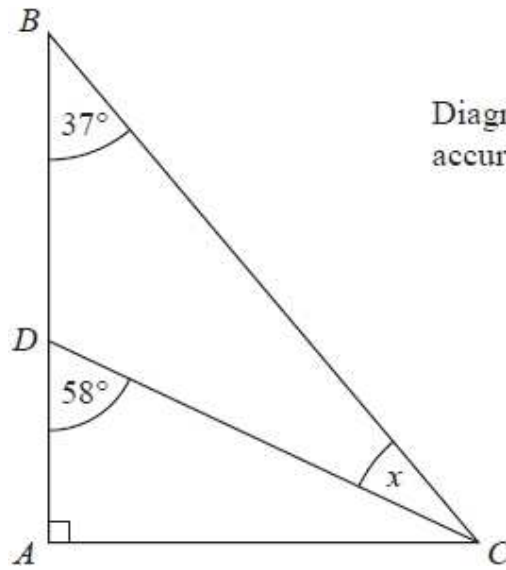


Diagram **NOT**
accurately drawn

ABC is a right-angled triangle.
ADB is a straight line.

Work out the size of the angle marked *x*.

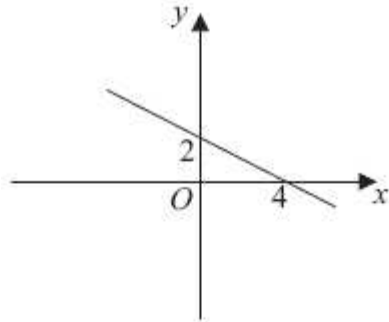
..... °

(Total for question = 2 marks)

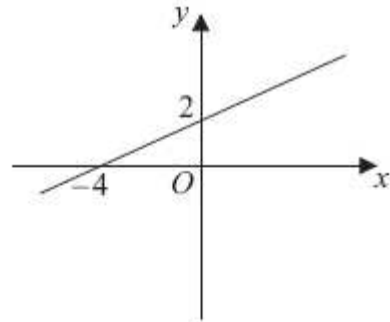
Q11.

Here are the graphs of 6 straight lines.

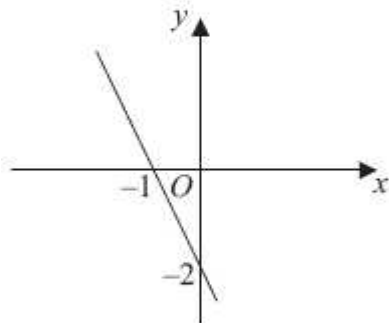
Graph A



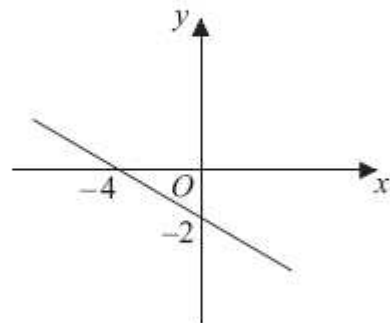
Graph B



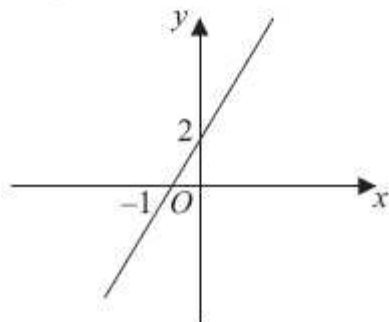
Graph C



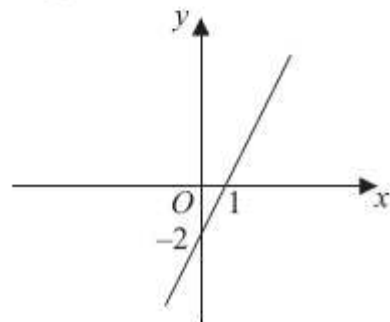
Graph D



Graph E



Graph F



Match each of the graphs **A**, **B**, **C**, **D**, **E** and **F** to the equations in the table.

| | | | | | | |
|-----------------|------------------------|--------------|-------------------------|---------------|--------------|-------------------------|
| Equation | $y = \frac{1}{2}x + 2$ | $y = 2x - 2$ | $y = -\frac{1}{2}x + 2$ | $y = -2x - 2$ | $y = 2x + 2$ | $y = -\frac{1}{2}x - 2$ |
| Graph | | | | | | |

(Total for Question is 3 marks)

Q12.

Celina and Zoe both sing in a band.

One evening the band plays for 80 minutes.
Celina sings for 65% of the 80 minutes.

Zoe sings for $\frac{5}{8}$ of the 80 minutes.

Celina sings for more minutes than Zoe sings.

Work out for how many more minutes.
You must show all your working.

..... minutes

(Total for question = 4 marks)

Q13.

The diagram shows a path around a pond.

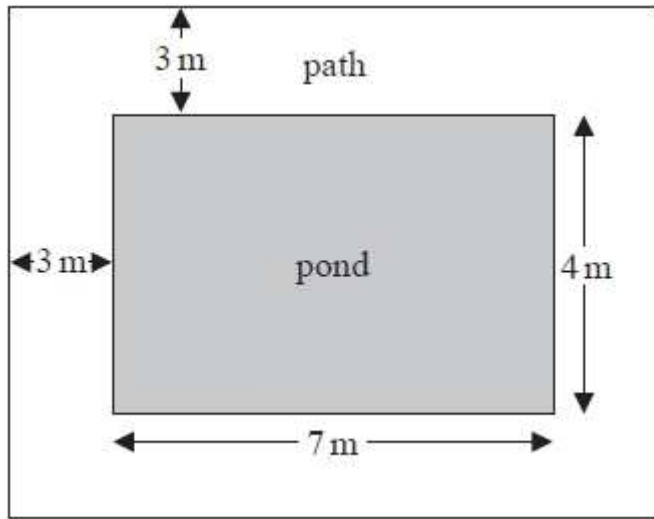


Diagram **NOT**
accurately drawn

The pond is in the shape of a rectangle with length 7 m and width 4 m.
The path is 3 m wide.

Ali is going to cover the path with gravel.
One bag of gravel will cover 10 m^2 of the path.

How many bags of gravel does Ali need to buy?
You must show your working.

..... bags

(Total for question = 4 marks)

Q14.

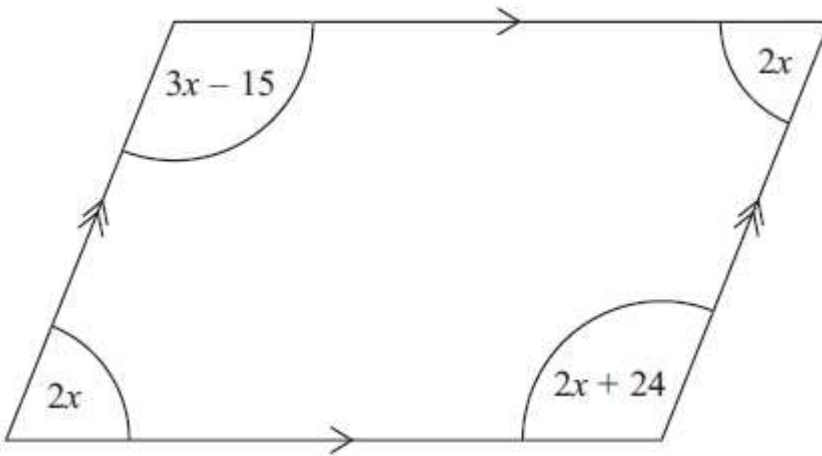


Diagram **NOT** accurately drawn

The diagram shows a parallelogram.
The sizes of the angles, in degrees, are

- $2x$
- $3x - 15$
- $2x$
- $2x + 24$

Work out the value of x

$x = \dots\dots\dots$

(Total for Question is 3 marks)

Q15.

The diagram shows a trapezium.

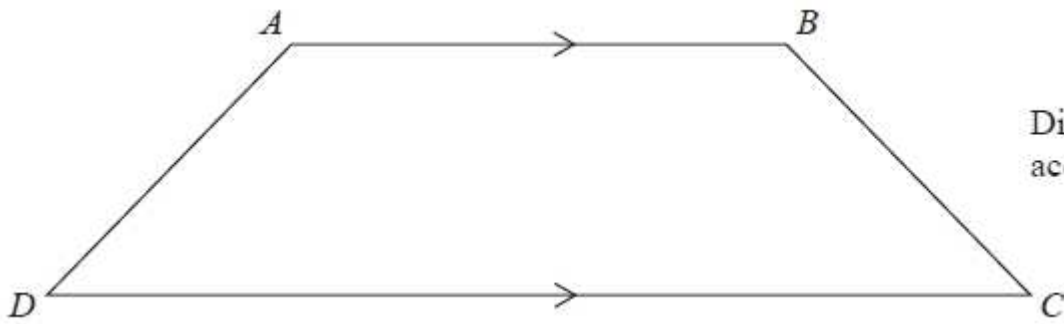


Diagram NOT
accurately drawn

$AD = x$ cm.

BC is the same length as AD .

AB is twice the length of AD .

DC is 4 cm longer than AB .

The perimeter of the trapezium is 38 cm.

Work out the length of AD .

..... cm

(Total for Question is 4 marks)