Rosary School \ Marj Elhamam

Name: _____ Date: / 11 / 2025

Subject: Inequalities, equations and formulae (Unit 5) Grade :8 ( )

(Past paper questions)

Q1.

(a) Paige takes her parents out for dinner.
Paige's dinner costs twice as much as her mother's dinner.
Her father's dinner costs $12 more than her mother's dinner.
The total cost of their dinners is $96
How much was Paige's dinner?

$ .....

(3)

(QU25 LMA11/01, Oct 2022)

Q2.

Answer the question with a cross in the box you think is correct ☒. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.

The value of A can be calculated using the formula

$$A = 4b - c$$

When $A = 880$ and $c = 140$, what is the value of b?

185	255	2960	4080
☐	☐	☐	☐

(Total for question = 1 mark)

(QU07 LMA11/01, Oct 2022)

Q3.

(a) Expand and simplify

$10x + 2x\,(5x - 4)$

.....

(2)

(b) Solve

$3\,(6y - 7) < 24$

.....

(2)

(c) Solve

$9w - 13 = 4w + 19$

w = ...

(2)

(Total for Question is 6 marks)
(Q21 LMA11/01, June 2024)

Q4.

Answer the question with a cross in a box ☒. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.

If $E = 400$ and $m = 8$, find the value of c to 2 decimal places when

$$E = mc^2$$

2.50	6.25	7.07	56.57
☐	☐	☐	☐

(Total for Question is 1 mark)
(Q10 LMA11/01, Oct 2024)

Q5.

Answer the question with a cross in a box ☒. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.

Find the value of

$$\frac{t^2 - \sqrt{tu + 3s}}{2st}$$

when $s = -2$, $t = 5$ and $u = 11$

Give your answer to 1 decimal place.

–0.9	–0.6	0.6	0.9
☒	☒	☒	☒

(Total for Question is 1 mark)

(Q12 LMA11/01, June 2024)

Q6.

Answer the question with a cross in a box ☒. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.

Simplify

$$14y + 8(3y + 4) + 15 - 3y$$

$35y + 47$	$35y + 19$	$22y + 19$	$22y + 27$
☒	☒	☒	☒

(Total for Question is 1 mark)

(Q05 LMA11/01, Oct 2024)

Q7.

Answer the question with a cross in a box ☒. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.

Simplify

$$23p + 9q - 8p + 5q$$

$15p + 4q$	$15p + 14q$	$31p + 14q$	$31p + 4q$
☒	☒	☒	☒

(Total for Question is 1 mark)
(Q03 LMA11/01, June 2024)

Q8.

Ali is x years old.

His sister is 5 years older than him.

His brother is double his age.

The sum of all their ages is 49

How old is Ali?

.....

(Total for Question is 2 marks)
(Q25 LMA11/01, June 2024)

Q9.

(a) Hiruka, Owen and Luca played a game.

Owen scored 20 points more than Hiruka.

Luca scored twice as many points as Hiruka.

They scored 100 points in total.

How many points did Hiruka score?

.....

(Q28 LMA11/01, Oct 2024)

Q10.

Answer the question with a cross in the box you think is correct ☒. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.

Make f the subject of the formula

$$e = 7\,(f - 3)$$

$f = \frac{e - 21}{7}$ ☐

$f = \frac{e - 3}{7}$ ☐

$f = \frac{e + 3}{7}$ ☐

$f = \frac{e + 21}{7}$ ☐

(Total for question = 1 mark)
(QU13 LMA11/01, June 2023)

Q11.

Answer the question with a cross in the box you think is correct ☒. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.

Expand and simplify $(x + 6)(x - 2)$

$x^2 + 4x - 12$ ☐ **A**

$x^2 - 12$ ☐ **B**

$x^2 - 8x - 12$ ☐ **C**

$x^2 + 8x + 12$ ☐ **D**

(Total for question = 1 mark)

(**QU14 LMA11/01, SAM 0**)

Q12 (c) Solve the inequality

$$9y - 11 < 5y + 10$$

.....

(2)

(Total for question = 6 marks)
(**QU22 LMA11/01, Oct 2021**)

Q13.

(c) Make q the subject of

$$p = \sqrt{\frac{7q}{5}}$$

.....

(3)

(d) Solve

$$\frac{7x+1}{5} = 2x + 5$$

.....

(3)

(QU19 LMA11/01, June 2021)

Q14.

Answer the question with a cross in the box you think is correct ☒. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.

Find the value of

$$\frac{5p + \sqrt{4q}}{(6r + 5)^2}$$

when $p = 8$, $q = 9$ and $r = -1$

–58	–46	46	58
☐	☐	☐	☐

(Total for question = 1 mark)

(QU14 LMA11/01, Oct 2020)

Q15.

Answer the question with a cross in the box you think is correct ☒. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.

If $a = 3$, $b = 1$ and $c = 5$, find the value of

$$(4a + 3b)^2 + ac^2$$

228	300	378	450
☐	☐	☐	☐

(Total for question = 1 mark)

(QU10 LMA11/01, Oct 2021)

Q16.

Answer the question with a cross in the box you think is correct ☒. If you change your

mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.

If $a = 5$ and $b = -2$, find the value of

$$(a + b)^2 - \sqrt{20a} + ab$$

–11	9	29	49
☒	☒	☒	☒

(Total for question = 1 mark)

(QU11 LMA11/01, Oct 2023)

Q17.

If $3y = 2x + 1$, find the value of x when $y = 7$

x = ...

(Total for question = 2 marks)

(QU16 LMA11/01, June 2019)

Q18.

Answer the question with a cross in the box you think is correct ☒. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.

A telephone company uses this formula to calculate how much a customer must pay

$$T = 0.25p + 0.2n + 15$$

where

T is the total cost (in $)
p is the number of minutes on calls during peak times
n is the number of minutes on calls during non-peak times

A customer spends 60 minutes on calls during non-peak times.

The total cost that she must pay is $51

How many minutes did she spend on calls during peak times?

42	96	105	156
☒	☒	☒	☒

(Total for question = 1 mark)

(QU12 LMA11/01, June 2022)

Q19.

Answer the question with a cross in the box you think is correct ☒. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.

Solve the inequality $5(12 - 3x) < 30$

$x < -2$	$x > -2$	$x < 2$	$x > 2$
☒	☒	☒	☒

(Total for question = 1 mark)

(QU15 LMA11/01, June 2021)

Q20.

Answer the question with a cross in the box you think is correct ☒. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.

If $a = -10$, $b = -4$ and $c = 3$, find the value of

$$a + (3b + c)^2$$

−91	−13	71	215
☒	☒	☒	☒

(Total for question = 1 mark)

(QU12 LMA11/01, June 2021)

Q21.

Make *k* the subject of the formula

$$t = \sqrt{\frac{k}{5c}}$$

.....

(Total for question = 2 marks)

(QU28 LMA11/01, Oct 2021)

Q22.

Answer the question with a cross in the box you think is correct ☒. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.

Make *n* the subject of the formula

$$m = \frac{\sqrt{7n}}{3}$$

$n = 3\left(\frac{m}{7}\right)^2$ ☐ $n = \left(\frac{3m}{7}\right)^2$ ☐ $n = \frac{3m^2}{7}$ ☐ $n = \frac{(3m)^2}{7}$ ☐

(Total for question = 1 mark)

(QU13 LMA11/01, Oct 2020)

Q23.

Answer the question with a cross in the box you think is correct ☒. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.

Simplify

$$8k + 4\,(2k - 3) + 6$$

$10k + 7$ ☐ $10k - 6$ ☐ $16k + 3$ ☐ $16k - 6$ ☐

(Total for question = 1 mark)

(QU03 LMA11/01, Oct 2023)

Q24.

(a) Simplify fully

$$\frac{x^7 \times x^{-4}}{x^5}$$

.....

(2)

(b) Make t the subject of

$$r = \sqrt{\frac{7t}{8}}$$

.....

(3)

(c) Solve

$$7(k-4) = 15 - k$$

k = ...

(3)

(Total for question = 8 marks)

(QU27 LMA11/01, Oct 2023)

Q25.

Answer the question with a cross in the box you think is correct ☒. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.

Solve $4(3 - 2w) \leq 24$

$w \leqslant -1.5$	$w \geqslant -1.5$	$w \leqslant 1.5$	$w \geqslant 1.5$
☒	☒	☒	☒

(Total for question = 1 mark)

(QU14 LMA11/01, Oct 2023)

Q26.

Answer the question with a cross in the box you think is correct ☒. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.

If $a = -3$, $b = 0.5$ and $c = 32$, find the value of

$$(a-2)^3 - \sqrt{4bc}$$

–133	–117	117	133
☒	☒	☒	☒

(Total for question = 1 mark)

(QU14 LMA11/01, June 2023)

Q27.

The monthly cost, C, of using a gym is calculated using the formula:

$$C = 12V + 15P$$

and P is the number of personal training sessions.

Last month, a woman visited the gym 8 times.

Her monthly cost was $171

How many personal training sessions did she have?

.....

(Total for question = 2 marks)

(QU20 LMA11/01, SAM 0)

Q28.

(a) Solve

$$\frac{5x - 8}{7} = \frac{3x + 2}{3}$$

x = ...

(3)

(b) Solve

$$46 \leq 35 - 5x$$

.....

(2)

(c) Factorise

$$x^2 - 64$$

.....

(1)

(d) Solve

$$x^2 - 4x + 3 = 0$$

x = ...

x = ...

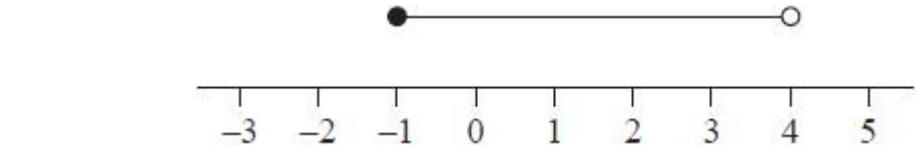
(3)

(Total for question = 9 marks)
(QU27 LMA11/01, SAM 0)

Q29.

Answer the question with a cross in the box you think is correct ☒. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.

Which inequality is illustrated on the number line below?



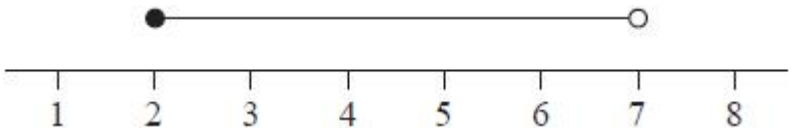
$-1 < x < 4$ ☐ $-1 < x \leqslant 4$ ☐ $-1 \leqslant x < 4$ ☐ $-1 \leqslant x \leqslant 4$ ☐

(Total for question = 1 mark)
(QU14 LMA11/01, June 2022)

Q30.

Answer the question with a cross in the box you think is correct ☒. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.

Which integers satisfy the inequality shown on the number line?



3,4,5,6 ☐ 3,4,5,6,7 ☐ 2,3,4,5,6,7 ☐ 2,3,4,5,6 ☐

(Total for question = 1 mark)
(QU15 LMA11/01, Oct 2022)

Q31.

(a) Expand and simplify $8b + 12 - 5(b - 7)$

.....

(2)

(b) Make x the subject of the formula $y = 4x^2$

.....

(2)

(Total for question = 4 marks)
(**QU24 LMA11/01, SAM 0**)

Rosary School \ Marj Elhamam

Name : …… Date: / 9 / 2025

Subject: Significant figures, powers and standard form Grade :8 ( )

(Past paper questions)

Q1.

(a) Work out

$$(9.75 \times 10^7) + (4.6 \times 10^6)$$

Give your answer in standard form.

.....

(2)

(b) A crate contains 1.4×10^6 drawing pins.

2.76×10^5 of the drawing pins are removed from the crate.
The rest of the drawing pins are then put into smaller boxes.
Each box contains 100 drawing pins.
How many boxes are filled?

.....

(3)

(Total for question = 5 marks)

(**QU31 LMA11/01, SAM 0**)

Q2.

(a) Which of these is the largest?

2.394×10^4 5.67×10^5 9.8×10^3

.....

(1)

(b) Work out

$1.2 \times 10^7 + 2.3 \times 10^6$

Give your answer in standard form.

.....

(2)

(Total for question = 3 marks)

(**QU20 LMA11/01, Oct 2022**)

Q3.

Answer the question with a cross in the box you think is correct ☒. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.

What is the value of

$$4^3 + 25 \times 41 - \sqrt{64} \div 4$$

910.25 ☐ 1039 ☐ 1085 ☐ 1087 ☐

(Total for question = 1 mark)

(**QU10 LMA11/01, Oct 2022**)

Q4.

(a) Calculate

$$1.2 \times 10^{-4} \times 9.8 \times 10^{-3}$$

.....

(1)

(b) Write the numbers below in order, starting with the smallest.

0.21 0.123 0.023 0.03 0.3

....

smallest largest

(2)

(Total for question = 3 marks)

(**QU17 LMA11/01, Oct 2020**)

Q5.

Answer the question with a cross in the box you think is correct ☒. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.

Work out the value of

$$100 + \left(\sqrt{121} \times 4 - 13\right) - 7^2$$

−48	60	82	382
☐	☐	☐	☐

(Total for question = 1 mark)

(**QU09 LMA11/01, June 2022**)

Q6.

Work out

$$\frac{(4 \times 10^5) + (2 \times 10^6)}{(4.8 \times 10^{-3})}$$

Give your answer in standard form.

.....

(Total for question = 2 marks)

(**QU31 LMA11/01, Oct 2023**)

Q7.

Work out

$7.3 \times 10^4 + 2.9 \times 10^3$

Give your answer in standard form.

.....

(Total for question = 2 marks)

(**QU28 LMA11/01, June 2021**)

Q8.

(a) Calculate

$$140\,000 \times 58\,000$$

Give your answer in standard form.

.....

(1)

(b) Write these numbers in order of size.

Start with the smallest.

1.099 1.11 1.109 1.019 1.9

....

Smallest

(2)

(c) Calculate the value of

$$\frac{19^2 + \sqrt{(350 + 179)}}{7.5 \times (14.2 - 12.6)^2}$$

.....

(2)

(Total for question = 5 marks)

(**QU16 LMA11/01, June 2023**)

Q9.

Answer the question with a cross in the box you think is correct ☒. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.

What is 0.008947 written to 3 significant figures?

0.00895	0.008	0.009	0.00894
☐	☐	☐	☐

(Total for question = 1 mark)

(**QU06 LMA11/01, Oct 2022**)

Q10.

Work out $3.1 \times 10^3 + 2.4 \times 10^4$

Give your answer in standard form.

.....

(Total for question = 2 marks)

(**QU30 LMA11/01, Oct 2021**)

Q11.

(a) Work out

$$2.39 \times 10^6 - 7.4 \times 10^5$$

.....

(1)

(b) Write the numbers below in order, starting with the smallest.

99 999 8×10^5 175 000 5.2×10^4

....

Smallest

(2)

(Total for question = 3 marks)

(**QU23 LMA11/01, June 2022**)

Q12.

(a) Write down the value of the following

(i) 15°

.....

(1)

(ii) 10^{-2}

.....

(1)

(b) Write 453.8×10^4 in standard form.

.....

(1)

A container holds 1.8×10^5 plastic cups.
Each cup weighs 1.2×10^{-2} kilograms.

(c) What is the total weight of all the cups?

Give your answer in standard form.

..... kilograms

(2)

(Total for question = 5 marks)

(**QU28 LMA11/01, June 2019**)

Q13.

Answer the question with a cross in a box ☒. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.

Which single power of 7 is equal to

$(7^8)^4$

7^2	7^4	7^{12}	7^{32}
☒	☒	☒	☒

(Total for Question is 1 mark)

(**Q09 LMA11/01, June 2024**)

Q14.

Answer the question with a cross in a box ☒. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.

Calculate

$$5^3 - \sqrt{1369} + 8 \times (9 + 12 \div 3)$$

144	192	672	1248
☒	☒	☒	☒

(Total for Question is 1 mark)

(**Q10 LMA11/01, June 2024**)

Rosary School \ Marj Elhamam

Name :_____ Date: / 9 / 2025

Subject: 2D shapes and 3D solids Grade :8 ( )

(Past paper questions)

Questions

Q1.

A semi-circle has a diameter of 5 cm.

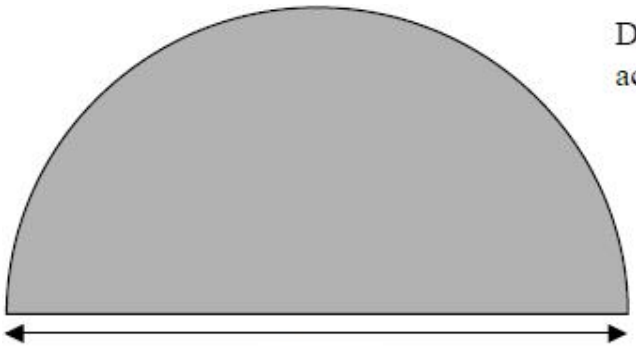


Diagram **NOT** accurately drawn

5 cm

(a) Calculate the area of the semi-circle.

Give your answer to 3 significant figures.

..... cm^2

(2)

(b) Calculate the perimeter of the semi-circle.

Give your answer to 3 significant figures.

..... cm

(2)

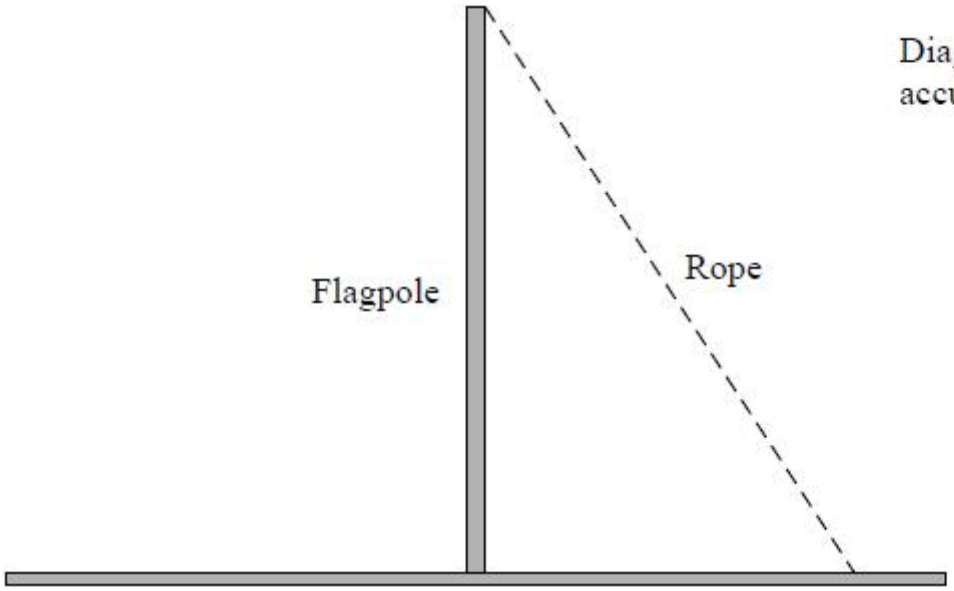
(Total for question = 4 marks)

(**QU21 LMA11/01, SAM 0**)

Q2.

(a) A 14 m rope is fastened to the top of a vertical 11 m flagpole.

The other end of the rope is fastened to the horizontal ground.
How far away from the bottom of the flagpole is the rope fastened to the horizontal ground?
Give your answer correct to 3 significant figures.



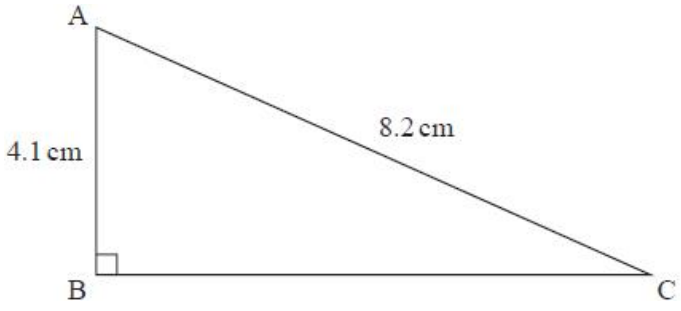
..... m

(3)

(**QU32 LMA11/01, SAM 0**)

Q3.

(a) Calculate the length BC correct to 3 significant figures.



..... cm

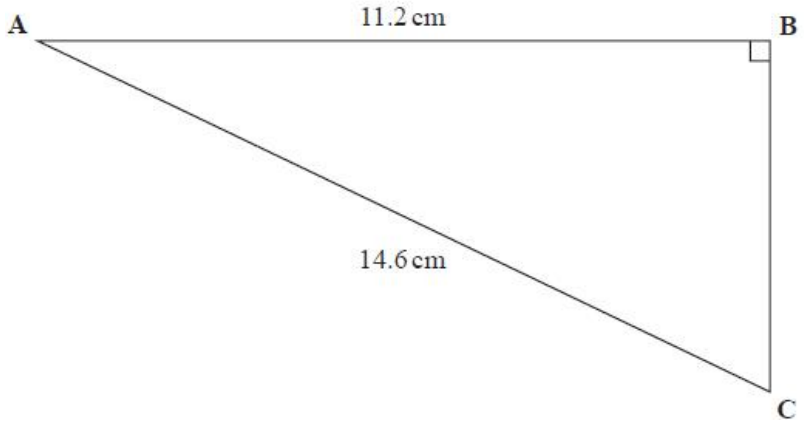
(3)

(**QU28 LMA11/01, Oct 2023**)

Q4.

ABC is a triangle.

Diagram **NOT** accurately drawn



Calculate the length of BC.

Give your answer correct to 3 significant figures.

..... cm

(Total for question = 3 marks)

(**QU28 LMA11/01, June 2023**)

Q5.

Calculate the length of the side DE.

Give your answer to one decimal place.

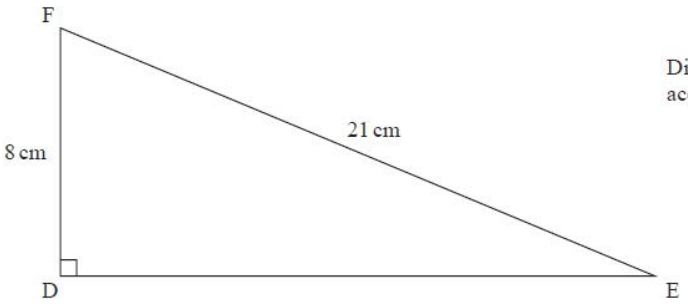


Diagram **NOT** accurately drawn

..... cm

(Total for question = 3 marks)

(**QU26 LMA11/01, June 2021**)

Q6.

A plastic semicircle is cut in half to form the shape below.

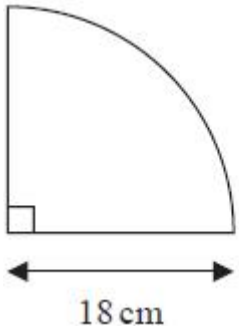


Diagram **NOT** accurately drawn

What is the perimeter of this shape?
Give your answer correct to 1 decimal place.

..... cm

(Total for question = 2 marks)

(**QU23 LMA11/01, Oct 2021**)

Q7.

A rectangle and a square have the same area.

The width of the rectangle is 7 cm shorter than the length of the rectangle.

The perimeter of the rectangle is 50 cm.

Calculate the perimeter of the square.

You must show your working.

..... cm

(Total for question = 4 marks)

(**QU31 LMA11/01, June 2023**)

Q8.

Find the volume of this prism.

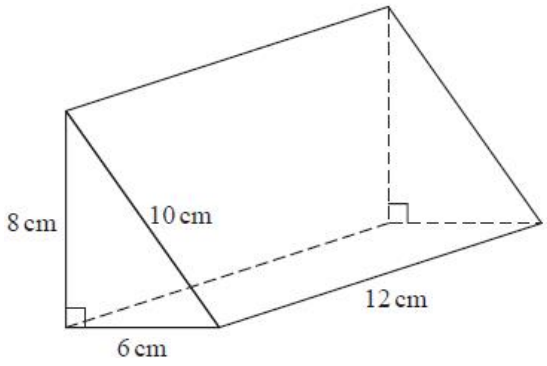


Diagram **NOT** accurately drawn

.....

(Total for question = 3 marks)
(**QU24 LMA11/01, Oct 2020**)

Q9.

Answer the question with a cross in the box you think is correct ☒. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.

What name is given to a straight line that connects two points on the circumference of a circle but does NOT pass through the centre of the circle?

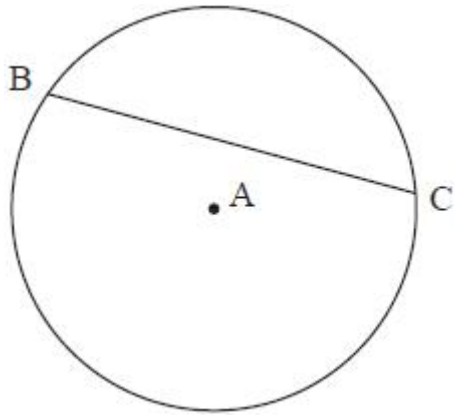
Chord	Diameter	Radius	Segment
☐	☐	☐	☐

(Total for question = 1 mark)
(**QU05 LMA11/01, June 2022**)

Q10.

(a) This circle has centre A.

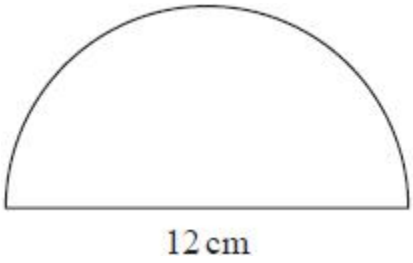
What name is given to the straight line that joins B and C?



.....

(1)

(b) This diagram shows a semicircular disc.



(i) Calculate the area of the disc.

..... cm^2

(2)

(ii) Calculate the perimeter of the disc.

..... cm

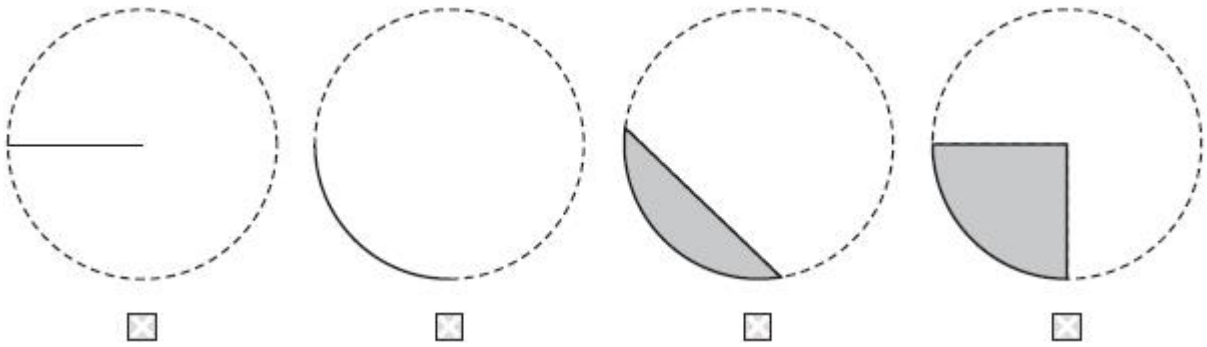
(2)

(Total for question = 5 marks)
(**QU20 LMA11/01, June 2021**)

Q11.

Answer the question with a cross in the box you think is correct ☒. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.

On which of these diagrams is a segment illustrated?



(Total for question = 1 mark)
(**QU04 LMA11/01, Oct 2021**)

Q12.

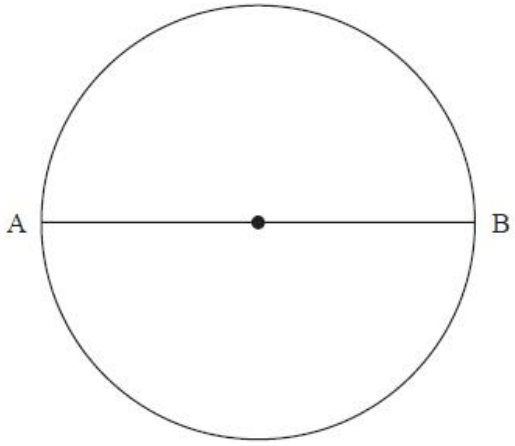


Diagram **NOT** accurately drawn

The line AB passes through the centre of the circle.

(a) What mathematical name is given to the line AB?

.....

(1)

The line AB is 22 cm long.

(b) Calculate the area of the circle.

Give your answer correct to 1 decimal place.

..... cm^2

(2)

(Total for question = 3 marks)
(**QU18 LMA11/01, Oct 2023**) **Q13.**

Answer the question with a cross in the box you think is correct ☒. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.

What is 1400 millimetres in metres?

0.14	1.4	14	140
☐	☐	☐	☐

(Total for question = 1 mark)

(**QU04 LMA11/01, June 2019**)

Q14.

Answer the question with a cross in the box you think is correct ☒. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.

The radius of a circle is 8 cm.

What is the circumference of the circle to the nearest centimetre?

25 cm	50 cm	201 cm	804 cm
☐	☐	☐	☐

(Total for question = 1 mark)
(**QU08 LMA11/01, Oct 2020**)

Q15.

Answer the question with a cross in the box you think is correct ☒. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.

The radius of a circle is 4 cm.

What is the circumference of the circle, to 1 decimal place?

12.6 cm	25.1 cm	50.3 cm	201.1 cm
☐	☐	☐	☐

(Total for question = 1 mark)
(**QU12 LMA11/01, June 2023**)

Q16.

A wheel has diameter 50 cm.

What is the least number of times that the wheel needs to turn to travel 100 m?

.....

(Total for question = 2 marks)
(**QU29 LMA11/01, June 2019**)

Q17.

A metal cuboid has length 8 cm, width 6 cm and height 10 cm.

(a) What is the surface area of the metal cuboid?

..... cm^2

(2)

(**QU27 LMA11/01, June 2019**)

Q18.

The volume of a cube is 614.125 cm^3

What is the surface area of this cube?

..... cm^2

(Total for question = 3 marks)
(**QU32 LMA11/01, Oct 2023**)

Q19.

Answer the question with a cross in the box you think is correct ☒. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.

What is the volume of a cube with edge 5 cm?

$15\,cm^3$	$25\,cm^3$	$125\,cm^3$	$150\,cm^3$
☐	☐	☐	☐

(Total for question = 1 mark)
(**QU08 LMA11/01, June 2023**)

Q20.

Answer the question with a cross in the box you think is correct ☒. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.

What is the volume of this cuboid?

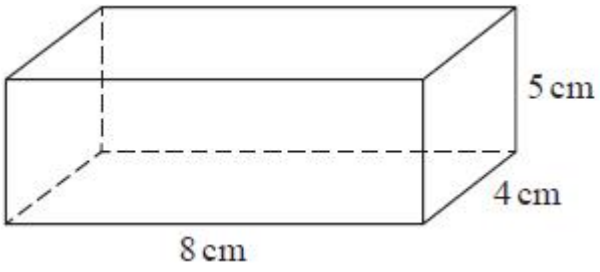


Diagram **NOT** accurately drawn

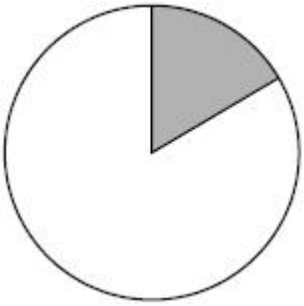
$17\,cm^3$	$92\,cm^3$	$160\,cm^3$	$184\,cm^3$
☐	☐	☐	☐

(Total for question = 1 mark)
(**QU12 LMA11/01, Oct 2020**)

Q21.

Answer the question with a cross in the box you think is correct ☒. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.

What word describes the shaded part of this circle?



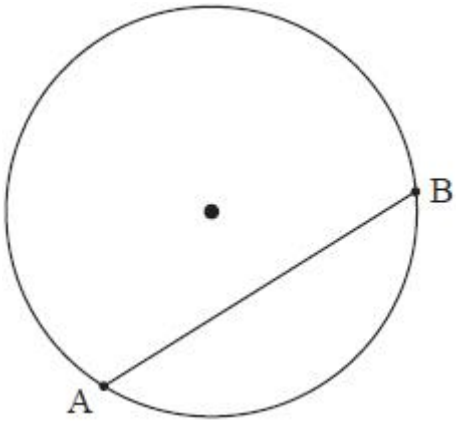
Circumference	Radius	Sector	Segment
☐	☐	☐	☐
A	**B**	**C**	**D**

(Total for question = 1 mark)
(**QU05 LMA11/01, SAM 0**)

Q22.

Answer the question with a cross in the box you think is correct ☒. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.

Which word describes the line AB on the diagram?



Chord	Diameter	Radius	Tangent
☐	☐	☐	☐

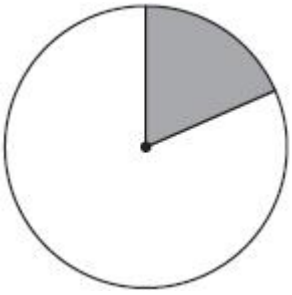
(Total for question = 1 mark)

(**QU02 LMA11/01, June 2019**)

Q23.

Answer the question with a cross in the box you think is correct ☒. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.

Which word describes the shaded part of the circle below?



Arc	Radius	Sector	Segment
☐	☐	☐	☐

(Total for question = 1 mark)
(**QU04 LMA11/01, Oct 2022**)

Q24.

A solid, wooden cube has volume 2197 cm^3

A student wants to cover all the faces of the cube with paint.

One tin contains enough paint to cover 1000 cm^2

Does the tin have enough paint to cover all the faces of the cube?

You must show your working.

.....

.....

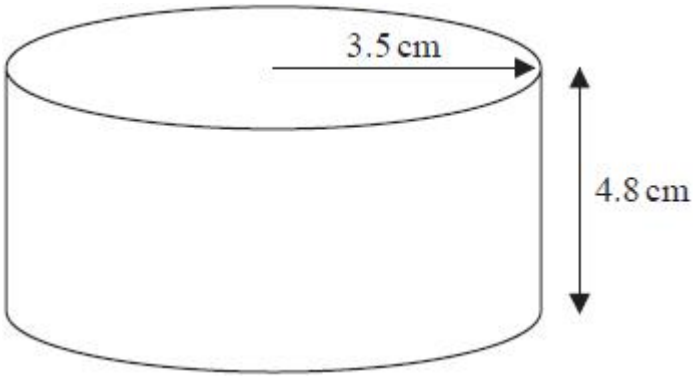
.....

(Total for question = 4 marks)

(**QU33 LMA11/01, SAM 0**)

Q25.

A solid cylinder has a radius of 3.5 cm and a height of 4.8 cm.



Work out the total surface area of the cylinder.

Give your answer correct to 1 decimal place.

..... cm^2

(Total for question = 3 marks)

(**QU21 LMA11/01, June 2023**)

Rosary School \ Marj Elhamam

Name: _____ Date: / 10 / 2025

Subject: Quadratics (Unit 3 + 4) Grade :8 ( )

(Past paper questions)

Unit (3)

Q1.

(b) What is the next term in the sequence

48, 44.5, 39, 31.5, 22, ...

.....

(1)

(c) Expand and simplify

$(x + 4)(x - 11)$

.....

(2)

(Total for question = 5 marks)

(QU17 LMA11/01, June 2023)

Q2.

(a) Expand and fully simplify

$$3(4h + 5) + 2h\,(6h - 7)$$

.....

(2)

(b) Solve

$$2m + 5 = 6m - 4$$

m = ...

(2)

(Total for question = 4 marks)

(**QU25 LMA11/01, June 2019**)

Q3.

Expand and simplify

(a) $-2m\,(5m - 8)$

.....

(2)

(b) $(y + 3)(y – 6)$

.....

(2)

(Total for question = 4 marks)
(QU25 LMA11/01, Oct 2023)

Q4.

(a) Expand and simplify

$$20w - 3w(4w + 5)$$

.....

(2)

(b) Solve the equation

$$\frac{7x-11}{5} = 9$$

$x =$ .....

(2)

(**QU22 LMA11/01, Oct 2021**)

Q5.

(a) Expand and simplify

$$9k + 14 - 4\,(3k - 6)$$

.....

(2)

(b) Expand and simplify

$$(w + 4)\,(w - 5)$$

.....

(2)

(d) Solve

$$\frac{7x + 1}{5} = 2x + 5$$

.....

(3)

(e) Write in its simplest form

$$y^0$$

.....

(1)

(f) Write in its simplest form

$$\frac{z^4 \times z^3}{z^2}$$

.....

(2)

(Total for question = 13 marks)
(QU19 LMA11/01, June 2021)

Q6.

Answer the question with a cross in the box you think is correct ☒. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.

Factorise

$$x^2 - 7x + 6$$

$(x - 1)(x - 6)$ ☐ $(x + 1)(x + 6)$ ☐ $(x - 1)(x + 6)$ ☐ $(x + 1)(x - 6)$ ☐

(Total for question = 1 mark)
(QU13 LMA11/01, Oct 2022)

Q7.

(a) Factorise fully

$$40xy^2 - 16y^4$$

.....

(2)

(b) Find the value of n given that

$$\frac{x^9 \times x^n}{x^2} = x^3$$

n = ...

(2)

(Total for question = 4 marks)
(QU26 LMA11/01, June 2023)

Q8.

Answer the question with a cross in the box you think is correct ☒. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.

Factorise $x^2 - 64$

$x(x-8)$	$(x-8)^2$	$(x-8)(x+8)$	$x(x-64)$
☐	☐	☐	☐

(Total for question = 1 mark)
(QU07 LMA11/01, June 2019)

Q9.

Answer the question with a cross in the box you think is correct ☒. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.

Factorise

$$x^2 - 10x + 24$$

$(x-2)(x+12)$	$(x+2)(x-12)$	$(x-4)(x-6)$	$(x-4)(x+6)$
☐	☐	☐	☐

(Total for question = 1 mark)
(QU13 LMA11/01, June 2022)

Q10.

Answer the question with a cross in the box you think is correct ☒. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.

Find a solution to the equation

$$x^2 - 34 = 290$$

16	18	128	162
☐	☐	☐	☐

(Total for question = 1 mark)
(QU14 LMA11/01, Oct 2022)

Q11.

Find the *n*th term of the sequence

1, 8, 15, 22, 29, ...

.....

(Total for question = 2 marks)
(QU20 LMA11/01, June 2019)

Q12.

Find the *n*th term of the sequence

27, 23, 19, 15, 11, ...

.....

(Total for question = 2 marks)
(QU27 LMA11/01, Oct 2021)

Q13.

Answer the question with a cross in the box you think is correct ☒. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.

Fully simplify

$$6p - 3q + 4p + 9q$$

$10p + 6q$ ☐	$2p - 12q$ ☐	$2p + 6q$ ☐	$10p - 12q$ ☐

(Total for question = 1 mark)
(QU01 LMA11/01, Oct 2022)

Q14.

(a) The first term of a sequence is 11

The term-to-term rule is subtracting 4
What is the fifth term of the sequence?

.....

(1)

(b) A different sequence has the *n*th term $3n - 7$

Find the first four terms of this sequence.

....

(2)

(c) A boy writes a sequence with the nth term $8n - 1$

His sister writes a sequence that begins 4, 13, 22, 31, ...
What is the first three-digit number that will be in both of their sequences?

.....

(3)

(Total for question = 6 marks)
(**QU20 LMA11/01, June 2022**)

Q15.

(a) The first term of a sequence is 7

The term-to-term rule of the sequence is 'subtract 19'
What is the third term of this sequence?

.....

(1)

(b) The n^{th} term of a different sequence is $n^2 + 4n$

Write down the first three terms of this sequence.

.....

(2)

(c) Felix writes a sequence that starts with 4 and has the term-to-term rule 'add 7'

Oluwatoni writes a sequence with nth term 5n + 4

What is the smallest number that is in both of their sequences?

.....

(3)

(Total for question = 6 marks)

(**QU21 LMA11/01, Oct 2022**)

Q16.

(c) Find the *n*th term of the sequence

9, 17, 25, 33, 41, ...

(2)

(Total for question = 6 marks)

(**QU17 LMA11/01, June 2021**)

Q17.

(a) Find an expression for the *n*th term of the sequence

7, 17, 27, 37, 47, ...

.....

(2)

(b) What is the value of

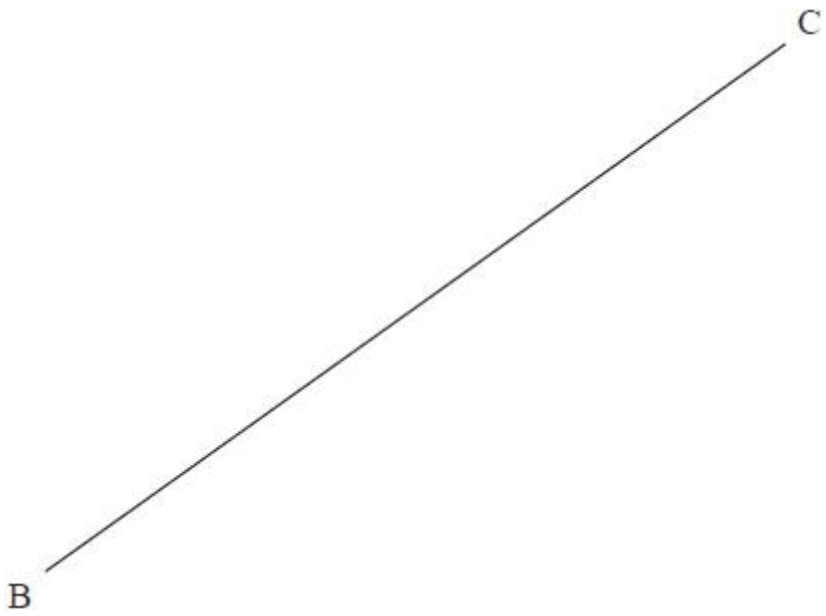
x^0

.....

(Total for question = 3 marks)
(**QU21 LMA11/01, Oct 2023**)

Unit (4)
Q1.

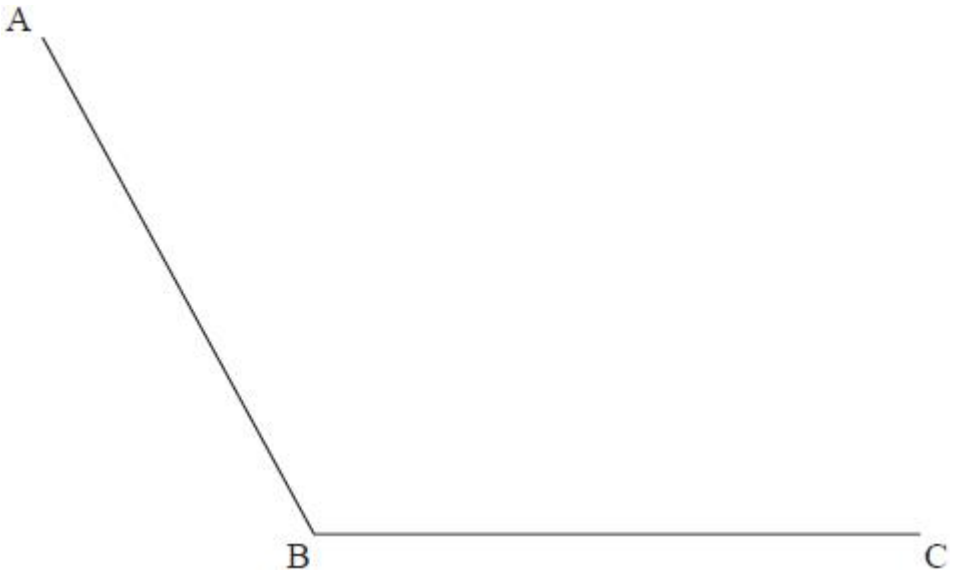
Use ruler and compasses to construct a perpendicular bisector of the line BC.
You must show all your construction lines.



(Total for question = 2 marks)
(**QU25 LMA11/01, Oct 2021**)

Q2.

Use ruler and compasses to construct the angle bisector of the angle ABC.
You must show all your construction lines.



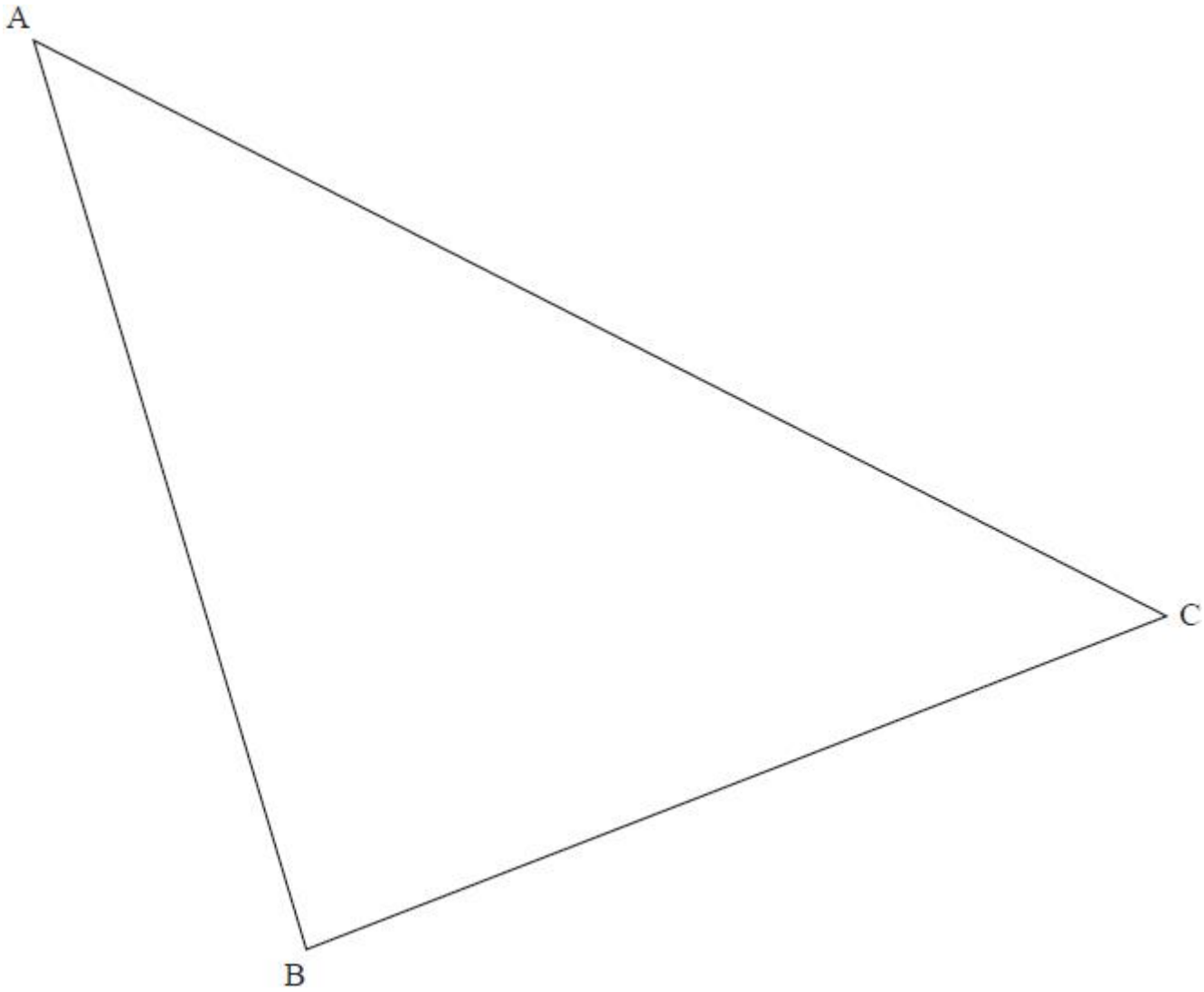
(Total for question = 2 marks)
(**QU27 LMA11/01, June 2021**)

Q3.

The diagram shows triangle ABC.

Use ruler and compasses to construct the perpendicular bisector of BC.

You must show clearly all your construction arcs.

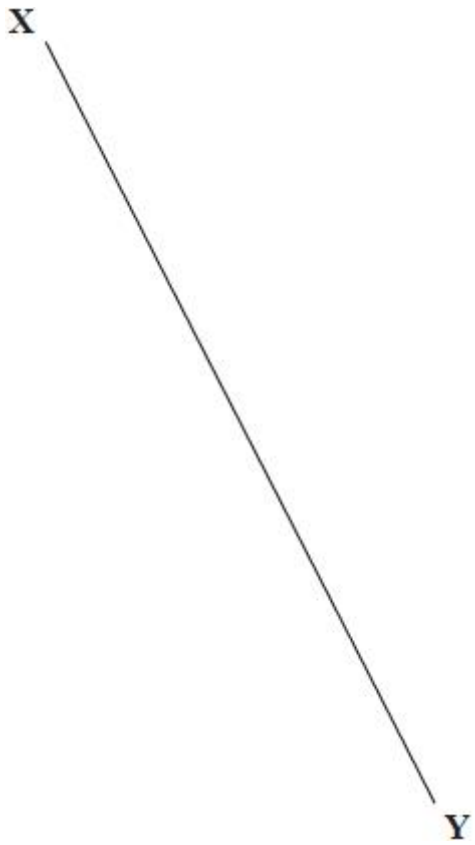


(Total for question = 2 marks)

(**QU30 LMA11/01, Oct 2023**)

Q4.

Use ruler and compasses to construct the perpendicular bisector of the line XY.
You must show all your construction lines.



(Total for question = 2 marks)

(**QU24 LMA11/01, June 2022**)

Q5.

ABC is a triangle.

AC = 6 cm and BC = 8 cm.

Use a ruler and compasses to construct the triangle ABC with AB as its base.

You must show all construction lines.

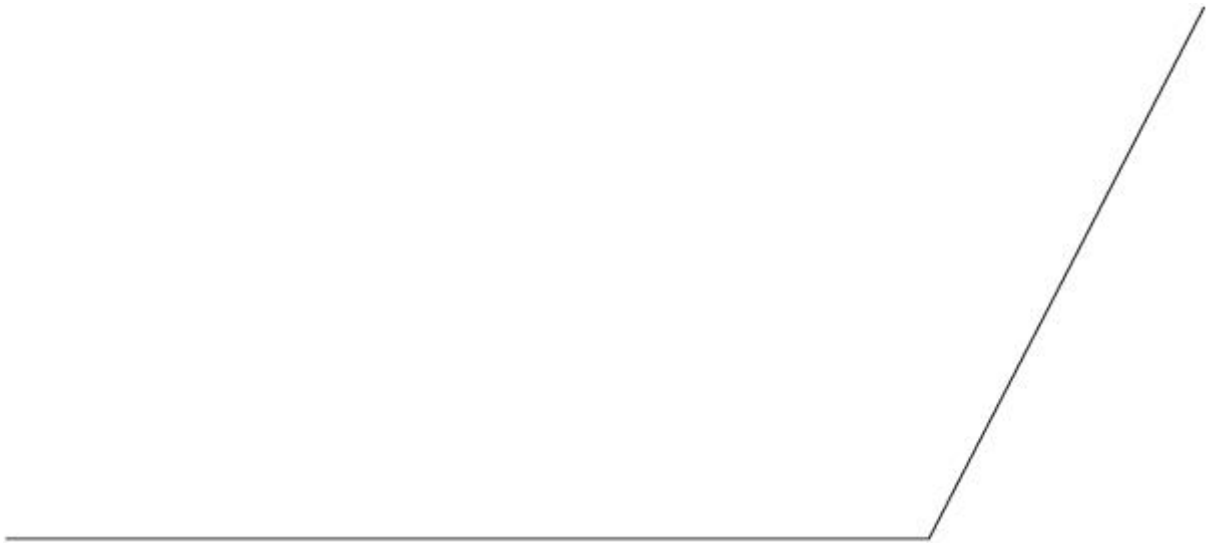
(Total for question = 2 marks)

(**QU23 LMA11/01, June 2023**)

Q6.

Using ruler and compasses, construct the bisector of the angle.

You must show all your construction lines.



(Total for question = 2 marks)

(**QU22 LMA11/01, Oct 2022**)