



Rosary School \ Marj Elhamam

Name: _____

Date: / 11 / 2025

Subject: Inequalities, equations and formulae (Unit 5)

Grade :8 ()

(Past paper questions)

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

$$9w - 13 = 4w + 19$$

$$w = \dots\dots\dots$$

(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 $y = 7$

$x = \dots\dots\dots$

(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

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

$$k = \dots\dots\dots$$

(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

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

$$w \leq -1.5$$

☐

$$w \geq -1.5$$

☐

$$w \leq 1.5$$

☐

$$w \geq 1.5$$

☐

(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

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

$$x = \dots\dots\dots (3)$$

(b) Solve

$$46 \leq 35 - 5x$$

$$\dots\dots\dots (2)$$

(c) Factorise

$$x^2 - 64$$

$$\dots\dots\dots (1)$$

(d) Solve

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

$x =$

$x =$

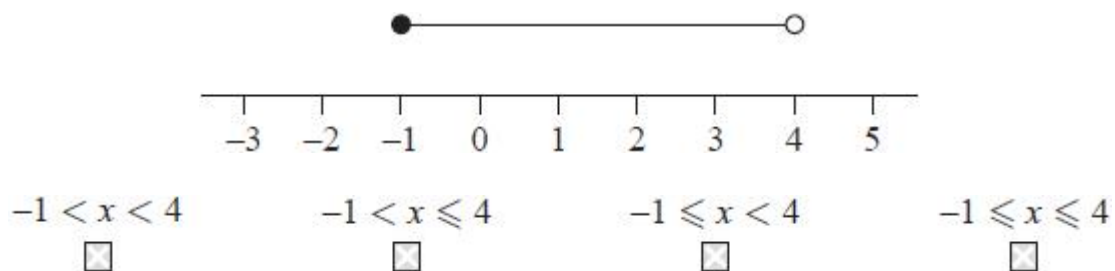
(3)

(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?

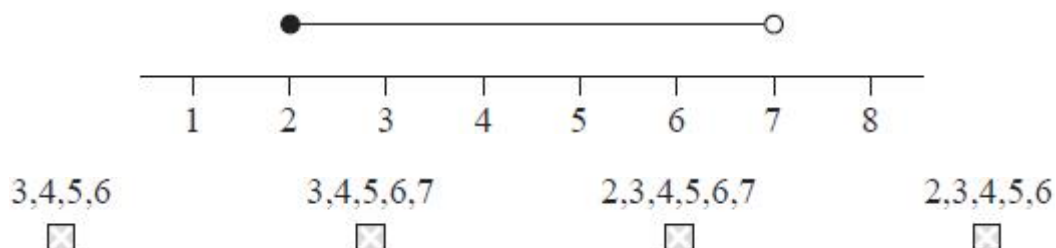


(Total for question = 1 mark)
(QU14 LMA11/01, June 2022)

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?



(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)