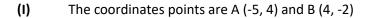
Question 1

a)







 $\mathsf{m} = \frac{y2 - y1}{x2 - x1} = \frac{y}{x}$

(11)

run is increase in x is 9

rise is increase in \mathbf{y} is -6

Step 1 subtract the coordinates then divide the rise by the run

$$m = \frac{4 - (-5)}{-2 - 4} = \frac{9}{6}$$

the gradient is

$$\frac{rise}{run} = \frac{-6}{9} = \frac{-2}{3}$$





b)

(I) the slope is $\frac{2}{5}$ the points are (-4, 4)

The formula is

Y = mx + c

The slope is

$$Y = \frac{2}{5}(-4) + c$$

The Y is 4 from the point we have

$$4 = \frac{2}{5} (-4) + c$$

$$4 = -1.6 + c$$

move 1.6 to the LHS and invert the operator

$$4 + 1.6 = c$$

Add the numbers to get

Check the equation

$$4 = \frac{2}{5} (-4) + 5.6$$

but where is the final equation?

$$y = \frac{2x}{5} + \frac{28}{5}$$
or $y = 0.4x + 5.6$

(ii) the formula is y = mx + c and the points are (-3, 4)

$$4 = \frac{2}{5} (-3) + c$$

$$4 = -1.2 + c$$

Substituting x = -3 into the equation gives

$$y = 0.4(-3) + 5.6$$
$$= -1.2 + 5.6$$
$$= 4.4$$

Since $4.4 \neq 4$, the point (-3,4) is not on the line.

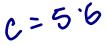
Reference

Unit 6, page 80, Example 2, page 81, Activity 2.

move 1.2 to the LHS and invert the operator

$$4 + 1.2 = c$$

Add the numbers to get c





Check the equation

$$4 = \frac{2}{5} (-3) + 5.2$$

$$4 = -1.2 + 5.2$$

4 = 4

So, the point (-3,4) lies on the line.

(iii) The x-intercept is the solution of the equation $\frac{2}{5}x + \frac{28}{5} = 0$. So

(iii) I didn't understand the question



does this help? The x intercept is the value of x when the line crosses the x axis which is when y = 0

$$\frac{2}{5}x = -\frac{28}{5}$$

$$2x = -28$$

$$x = -14$$
.

The x-intercept is -14.

Reference

Unit 6, page 116, Example 10, Activity 17 Handbook, page 43.

Question 2

- (a)
- (I) There would be an abnormal distance between the points on the graph and it would be difficult or even impossible to draw a line between the points.
- (ii) If variables **x** and **y** are negatively correlated, it means that the variables move in different directions. When \mathbf{x} is increased then \mathbf{y} will eventually decrease and if \mathbf{x} is decreased \mathbf{y} is increased.

(iii) Coefficient of r = 0.9 means a strong correlation and positive association between two variables



(b) but in context

The variable x represents the time of submission (number of minutes before the cut-off deadline).

The variable y represents the time taken to upload the file in seconds.

(I)

(1) the (x) represents the explanatory variable

(2) the (y) represents the dependable variable



(ii) a strong negative a downward sloping relationship between \boldsymbol{x} and \boldsymbol{y}





(iii) $y = -029 \times 21 + 21.32 = 15.23 \approx 15$ seconds (to the whole second)





(iv) the time taken to upload a file closer to the deadline has increased by 15 seconds as stated in

question (iii)

No, you cannot conclude that submission times closer to the deadline cause the time it takes to upload a file to increase.

Correlation does not imply causation. Good correlation does not prove a cause and effect relationship. There may be many other factors which affect time taken to upload the file (e.g. number of students trying to submit at the same time, internet speed, size of file, etc.).



Question 3

(a)

Substituting x = 21 into y = -0.29x + 21.32 gives

 $y = -0.29 \times 21 + 21.32,$

so y = 15.23.

The model predicts that a file submitted 21 minutes before cut-off will take 15 seconds (to the nearest second) to upload.

Reference

Unit 6, page 136, Activity 28.



```
Puestion 3

Mothiply by 4 to get rid of the Fraction =

-9t = \frac{7K}{4} + 5
(4) 9t = \frac{7K}{4} + 5
(4) 9t = \frac{7K}{4} + 20
Simplify: 36t - 20 = 7K + 20
Simplify: 36t - 20 = 7K
devide by 7: \frac{36t - 20}{7} = \frac{7K}{7}
Simplify: \frac{36t - 20}{7} = \frac{7K}{7}
Simplify: \frac{36t - 20}{7} = \frac{7K}{7}
Simplify: \frac{36t - 20}{7} = \frac{7K}{7}
```

(b)

The equation is:
$$8K = \frac{11K}{5t} + 14t$$

eliminate fraction xst = $(5t)$ sK = $\frac{11K}{5t}$ + $14t$

eliminate fraction xst = $(5t)$ sK = $\frac{11K}{5t}$ + $14t$

simplify: $40 \text{ Kt} + 70t = 11K + 70t + 70t}$

divide by 11: $40 \text{ Kt} + 70t = 11K$
 $30 \text{ Kind plify}: 40 \text{ Kt} + 70t = 11K$
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Question 4

I didn't do question 4 I still not understanding the concepts

Question 5
I couldn't make question 5 I still trying to understand these concepts



Question 6

(a) I haven't done question a I don't understand most of it.

(b) I haven't done question b

Question 6

(b)

(i)
$$(5x-9)(6x+7) = 30x^2 + 35x - 54x - 63$$

Simplify = $30x^2 + 19x - 63$

(ii) $(3a-6b)^2 = (3a-6b)(3a-6b) = 9a^2 - 18ab - 18ab + 36b^2$

Simplify = $9a^2 - 36ab + 36b^2$

like terms

(c)

(c)
$$25 h^2 - 36 k^2 = (5h + 6k)(5h + 6k) = 25h^2 - 36k^2$$

 $25h = 5 \times 5$
 $36 = 6 \times 6$

(e) I haven't done question e

The equation is:
$$\frac{18}{7-x} = \frac{63}{x+2}$$

Multiply to eliminate fractions: $(x+2)(7/x)18 = \frac{63}{2x}(2x/2)(7-x)$

eliminate the brackets: $18(x+3) = \frac{63}{3}(7-x)$

Simplify: $18x + 36 = \frac{441 - 63x}{441 - 63x}$

Add $63x : 18x + 36 + 63x = 441 - 63x + 683c$

Simplify: $81x + 38 = 441 - 36$

Simplify: $81x + 38 = 441 - 36$

Simplify: $81x = 405$

divide by $81 : \frac{81x}{81} = \frac{405}{81}$

Check:

LHS $\frac{18}{7-5} = \frac{18}{2} = \frac{19}{9}$ RHS $= \frac{63}{5+2} = \frac{63}{7} = \frac{19}{9}$

Dear Sue thank you very much for your generous TMA extension, but I won't be able to complete I still have issues but that's my fault I was neglecting math a doing other things.

On this TMA I fail to complete it.

Joao: What you attempted was done well so please don't give up . Make a plan to do a bit extra each week and you can catch up. I am here to help .

You have good algebra skills as seen in Q6 f) with an excellent check of the solution well done but I think you are sometimes having a hard time interpreting what the question is asking you to do and getting started. I am happy to talk through questions in general with you so you can understand what is being asked if that would help. You have the maths skills now you have to figure out how to apply them to a question.

Cuestion 1;	MU 123 21J TMA03 Mark Sheet	NAME : Joao Marcos Calacia		
a) i) (5,4 and (4,-2) unit 6 page 64 activity 1: 1 marks 2 marks 3 marks	Question 1:			
ii) 2/23 unit 6 page 772-example 3: 2 marks 3 ma		unit 6 page 64 activity 1:	1 marks	1
ii) not on line unit 6 , page 66 example 2:				2
Bij xx-14	b) i) y= (2/5)x +(28/5)	unit 6 page 101 example 14:	3 marks	2
	ii) not on line		2 marks	0
(a) not following pattern, negative correlation, strong positive unit 6, section 4 page 104 Activity 32 (b): (b)) x time of submission, y time taken to upload unit 6, page 106 activity 24 2 marks is strong negative correlation (a) strong negative correlation (b) y = 15.23 15 secs to nearest sec with conclusion (a) y = 15.23 15 secs to nearest sec with conclusion (a) key = 10.23 15 secs to nearest sec with conclusion (a) key = 10.24 15 Marks Cuestion 3 (b) (a) (a) (a) (a) (a) (b) (b) (c) (c) (c) (c) (c) (c) (c) (c) (c) (c	iii) x= -14	unit 6 , page 94 example 10:	2 marks	0
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(b) i) x time of submission, y time taken to upload		unit 6 postion 4 page 104 Activity 22 /h):	6 marka	6
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Voice Voic	ii) strong negative correlation	unit 6 , page 109:	2 marks	2
Clustion 3	iii) y=15.23 15 secs to nearest sec with conclusion	unit 6 , page 110 activity 28:	3 marks	3
Calestion 3 (a)	iv) correlation does not imply causation	unit 6 , page 112-113:	2 marks	0
(a) k=(361-20)/7		Total 15 Marks		11
Columbia		Unit 7 mans 400 400 matrix 2		_
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Vi Proof of isoceles				0
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(c) (5h-6k)(5h+6k)				2
(d) i) (x-9)(x+7)				2
ii) x=9 or x = -7 (e) i) y=27				2
(e) i) y=27 unit 9 page 96 activity 21f 2 marks ii) y=0 or y=27 2 marks iii) factorising allows keeping track of both solutions 1 marks (f) x=5 including check unit 9, page 110, example 15 activity 32 5 marks Total 25 marks		unit 9 page 96 example 7 Activity 21:	4 marks	0
ii) y=0 or y=27 iii) factorising allows keeping track of both solutions (f) x=5 including check unit 9, page 110, example 15 activity 32 5 marks Total 25 marks	,	unit 9 page 96 activity 21f	2 marks	0
iii) factorising allows keeping track of both solutions 1 marks (f) x=5 including check unit 9, page 110, example 15 activity 32 5 marks Total 25 marks	, , , ,	and a page so delivity 2 ii		0
Total 25 marks				0
Total 25 marks	(f) x=5 including check	unit 9, page 110, example 15 activity 32	5 marks	5
Question 7	· ·			11
	Question 7	maximum of 5 marks for GMC		_
Good mathematical communication maximum of 5 marks for GMC 5 marks Total 5 marks	Good mathematical communication		5 marks	3 3
TMA TOTAL		TMA TOTAL		33