ALBERTA DISTANCE LEARNING CENTRE
Mathematics 10C
MAT1791
Workbook 7.2

Student's Questions and Comments

FOR STUDENT USE ONLY

Student Name:

_____

FOR ADLC USE ONLY

Assigned to

_____

Marked by

_____

Date received

_____

Summary

	Marks Earned	Total Possible Marks	Percent
7.2 Practice – II	**I have ____ /8 and ____ %.**		
Lesson 7.2 Assignment		17	

Teacher's Comments:

_____

Teacher's Signature

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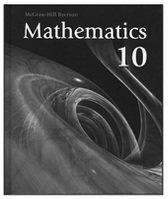

Mathematics 10

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Practice Assessment

The *Practice* section provides exercise questions and allows you to self-reflect on your conceptual understanding of the *Lesson* skills. You will mark your *Practice* work in each *Workbook* according to the following rubric.

Category	Strategy and Procedures	Response to Questions
	I have…	*I have…*
4	• used efficient and effective strategies to solve the problem(s)	• provided detailed explanations and followed directions appropriately to complete all questions
3	• used effective strategies to solve the problem(s)	• provided clear explanations and followed directions adequately to complete most questions
2	• used effective strategies inconsistently to solve the problem(s)	• provided incomplete explanations and followed some directions to complete a few questions
1	• used ineffective strategies to solve the problem(s)	• provided incomplete explanations and have not followed directions to complete some questions

Complete *Practice* exercises using your best work, showing all relevant steps needed to arrive at your solution. Refer to the *Module* to review lesson instructions. Contact your teacher for assistance or clarification as needed, or to investigate the topic further.

Check and correct your work using the solutions provided in *Appendix* in the *Module*.

Practice is worth 8 marks.

After you have assessed your work, reflect on your understanding of the concepts in the table provided at the end of each *Practice* section.

Lesson 7.2: General Form of a Linear Equation

Complete the *Practice* below. When you have completed all the questions for *Lesson 7.2 Practice – II* with your best work, mark your work by first comparing your answers to the solutions provided in the *Appendix*. Then, apply the rubric found at the beginning of the *Workbook*.

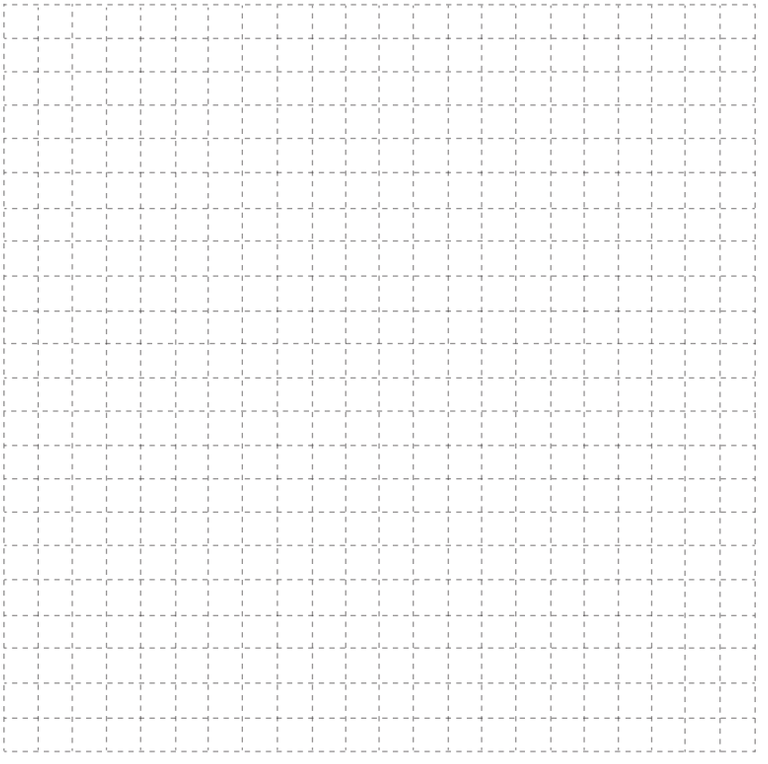
Practice – II

1. Rewrite each of the following equations in general form, $Ax + By + C = 0$.

   a. $y = -3x - 6$

   b. $y = \frac{2}{3}x - 7$

2. Sketch the graph of $x = -5$.



3. The y-axis can be represented by the equation $x = 0$.

   a. What is the x-intercept of the y-axis?

   _____

   b. The line $x = 0$ has an infinite number of y-intercepts. Explain what this means.

   _____

   _____

   _____

   _____

4. State the equation of vertical line that passes through the point $(5, -7)$.

   _____

5. Pravin is planning a garden of tomatoes and pumpkins. His garden has a total area of 300 ft^2. Pravin writes the following equation to represent the number of plants he can include.

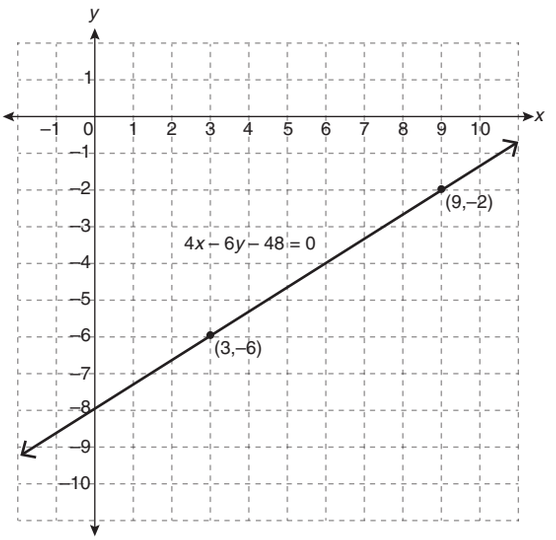
$$4t + 25p = 300$$

a. Explain what you expect each term of Pravin's equation to represent.

b. If Pravin plans to plant 30 tomato plants, how many pumpkin plants can he use?

6. Ryan says that he can graph a linear relation that is in general form without using x and y-intercepts. Below is his work showing how to graph $4x - 6y - 48 = 0$ using this strategy.

$$\begin{aligned} 4x - 6y - 48 &= 0 \\ 4(3) - 6y - 48 &= 0 \\ 12 - 6y - 48 &= 0 \\ -36 - 6y &= 0 \\ -6y &= 36 \\ y &= -6 \end{aligned} \qquad \begin{aligned} 4x - 6y - 48 &= 0 \\ 4(9) - 6y - 48 &= 0 \\ 36 - 6y - 48 &= 0 \\ -12 - 6y &= 0 \\ -6y &= 12 \\ y &= -2 \end{aligned}$$



a. Explain Ryan's strategy.

b. Give a reason people might prefer to use the intercepts instead of Ryan's method.

7. Galaxy High School students want to raise $1 200 to support their student government activities. They sell sweatshirts for a profit of $5.75 and t-shirts for a profit of $3.50.

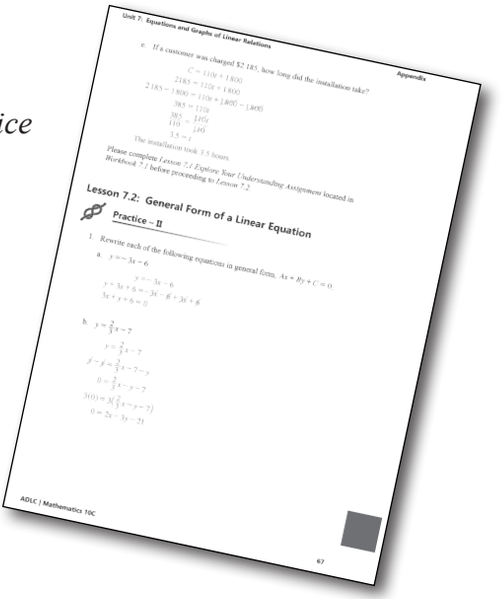
   a. Write a linear equation that represents the number of each type of shirt needing to be sold to reach their goal.

   b. State the domain and range of the graph of the relation, if the students plan to stop selling once they have raised $1 200.

Mark your work for *Lesson 7.2 Practice – II* using the solutions provided in the *Appendix*. Then, apply the rubric found at the beginning of the *Workbook*.

Transfer your self-assessed mark to the front cover of the *Workbook*.

My self-assessed mark on *Lesson 7.2 Practice – II* is _____.


Unit 7: Equations and Graphs of Linear Relations

Appendix

e. If a customer was charged $2 185, how long did the installation take?

$C = 110t + 1\,800$

$2\,185 = 110t + 1\,800$

$2\,185 - 1\,800 = 110t + 1\,800 - 1\,800$

$385 = 110t$

$\frac{385}{110} = \frac{110t}{110}$

$3.5 = t$

The installation took 3.5 hours.

Please complete *Lesson 7.2 Explore Your Understanding Assignment* located in *Workbook 7.1* before proceeding to *Lesson 7.2*.

Lesson 7.2: General Form of a Linear Equation

Practice – II

1. Rewrite each of the following equations in general form, $Ax + By + C = 0$.

a. $y = 3x - 6$

$y = 3x - 6$

$y + 6 = 3x - 6 + 6$

$3x + y + 6 = 0$

b. $y = \frac{2}{3}x + 7$

$y = \frac{2}{3}x + 7$

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

$0 = \frac{2}{3}x - y + 7$

$3(0) = 3(\frac{2}{3}x - y + 7)$

$0 = 2x - 3y + 21$

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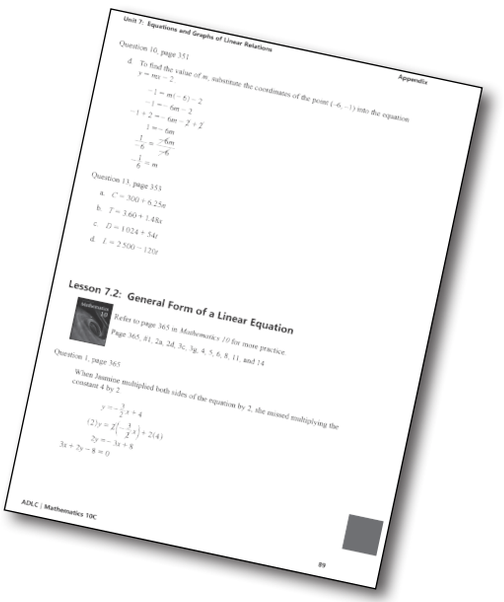
Question Number	Got it!	Almost there…	Need to retry or ask for help.
1			
2			
3			
4			
5			
6			
7			

You may proceed to *Explore Your Understanding Assignment* on the next page of this *Workbook*.

Note: Before you complete *Explore Your Understanding*, you may review your skills and get more practice by completing the following problems in *Mathematics 10*.

- Page 365, #1, 2a, 2d, 3c, 3g, 4, 5, 6, 8, 11, and 14

Check your work in *Enhance Your Understanding*.


Unit 7: Equations and Graphs of Linear Relations

Appendix

Question 10, page 351

d. To find the value of m, substitute the coordinates of the point $(-6, -1)$ into the equation $y = mx - 2$.

$-1 = m(-6) - 2$

$-1 = -6m - 2$

$-1 + 2 = -6m - 2 + 2$

$1 = -6m$

$\frac{1}{-6} = \frac{-6m}{-6}$

$-\frac{1}{6} = m$

Question 13, page 353

a. $C = 300 + 6.25t$

b. $T = 3\,660 + 1.48t$

c. $O = 1024 + 54t$

d. $L = 2\,500 - 120t$

Lesson 7.2: General Form of a Linear Equation

Refer to page 365 in *Mathematics 10* for more practice.

Page 365, #1, 2a, 2d, 3c, 3g, 4, 5, 6, 8, 11, and 14

Question 1, page 365

When Jasmine multiplied both sides of the equation by 2, she missed multiplying the constant 4 by 2.

$y = -\frac{3}{2}x + 4$

$(2)y = 2\left[-\frac{3}{2}x\right] + 2(4)$

$2y = -3x + 8$

$3x + 2y - 8 = 0$

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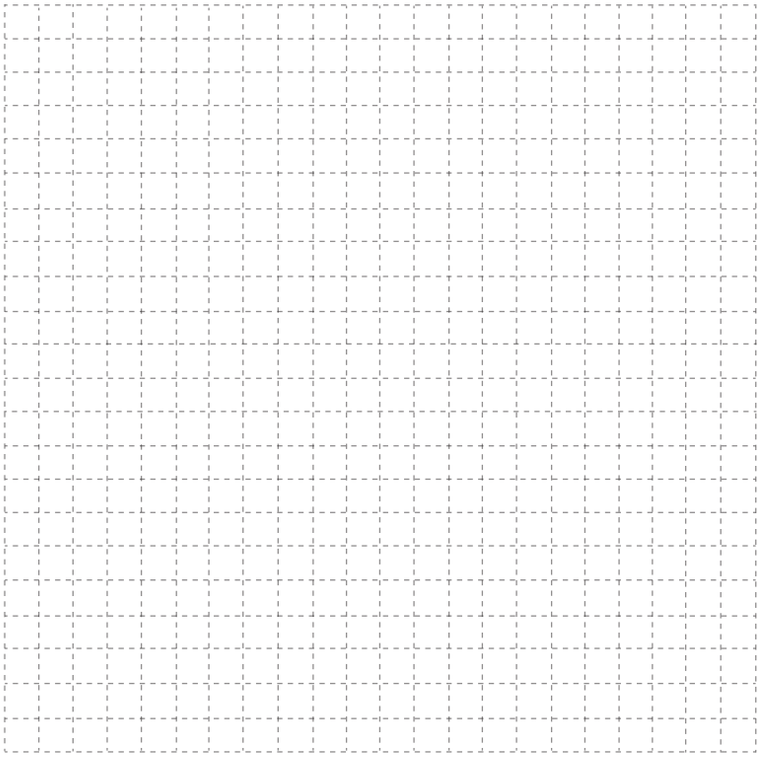
Lesson 7.2: General Form of a Linear Equation

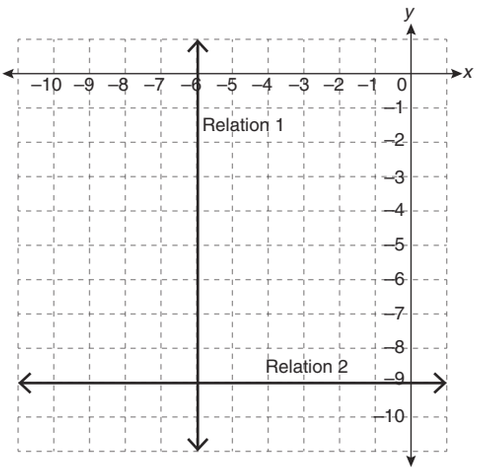
Explore Your Understanding Assignment

(3) 1. Sketch a graph of the linear relation $8x + 2y = 24$. Explain the procedure.



(2) 2. Determine the value of B such that the line defined by $8x + By + 92 = 0$ passes through the point $(-4, 12)$.

(2) 3. State the equation of each relation.

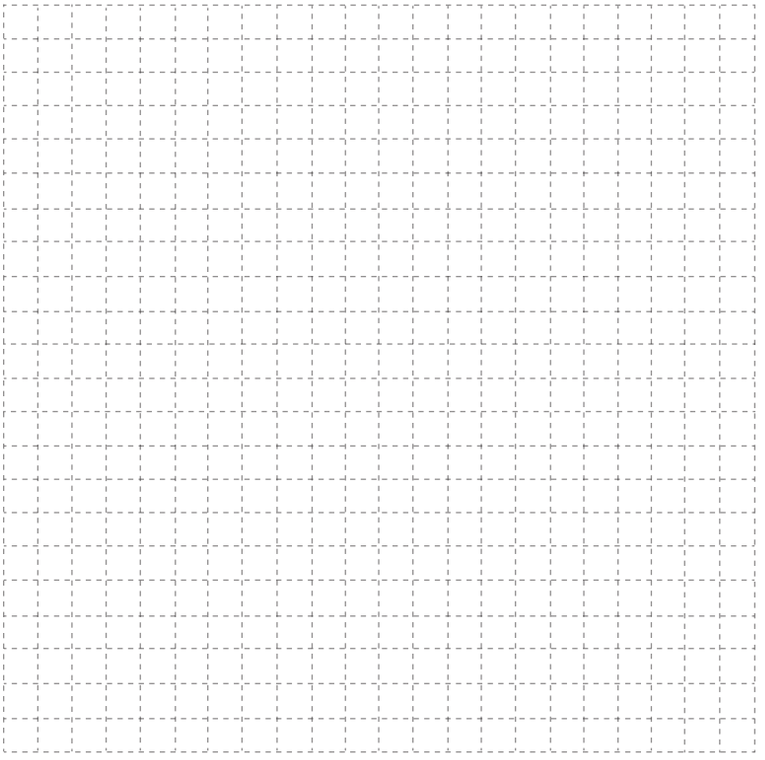


(1) 4. State the equation of the x-axis.

5. Emma is planning her summer and would like to work enough to travel and buy a new laptop. She can earn $90 each day, after deductions, and she can work a maximum of 40 days in July and August, combined. She expects each day of travel will cost her $150 and the laptop she hopes to buy costs $700.

(1) a. Write a linear equation that represents the number of days Emma can work and travel and still earn enough for her laptop. (Hint: You can write an equation similar to that shown in the last *Example* of *Lesson 7.2*.)

(1) b. Sketch the graph of this relation.



(1) c. State the domain and range of this relation.

(1) d. If Emma plans to travel for 6 days, how many days does she need to work?

6. Tayler claims that when a linear equation is written in general form, $Ax + By + C = 0$, the x-intercept of the corresponding graph is always $-\frac{C}{A}$.

(1) a. Show that Tayler's claim is true for the equation $3x + 5y + 45 = 0$.

(1) b. Explain why $-\frac{C}{A}$ represents the x-intercept. (Hint: What y-value can be substituted into $Ax + By + C = 0$ to determine the x-intercept?)

(1) c. Tayler's claim is not true for horizontal lines. Explain why.

(1) d. Suggest a similar rule for the y-intercept. Check the rule using $3x + 5y + 45 = 0$.

(1) e. Will the rule always work?

_____

_____

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