ALBERTA DISTANCE LEARNING CENTRE
Mathematics 10C
MAT1791
Workbook 6.2

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
6.2 Practice – II	**I have _____ /8 and _____ %.**		
Lesson 6.2 Assignment		20	

Teacher's Comments:

_____

Teacher's Signature

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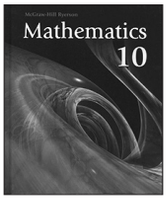

Mathematics 10

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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 6.2: Domain and Range

Complete the *Practice* below. When you have completed all the questions for *Lesson 6.2 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

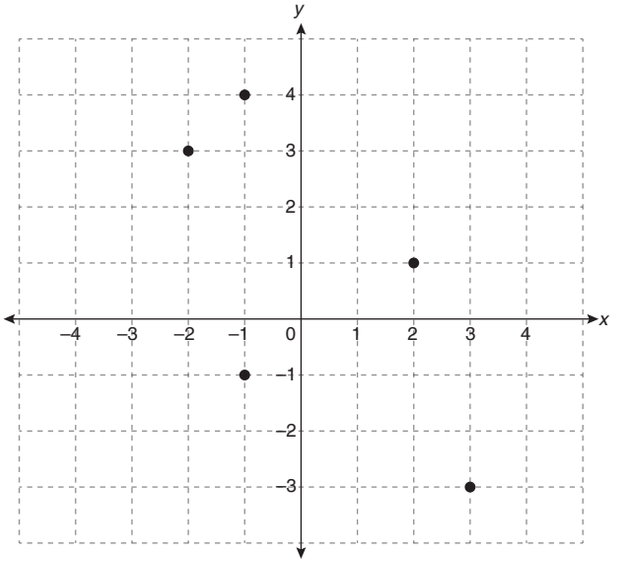
1. Determine the domain and range of the following relations as sets in list form.

   a. {(3,6), (6,7), (10,11), (13,17), (14,20)}

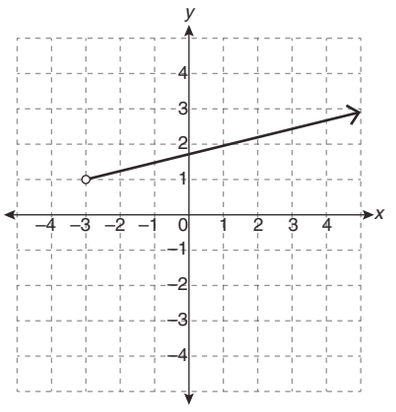
   b.

x	y
–2	–3
–5	5
–8	11

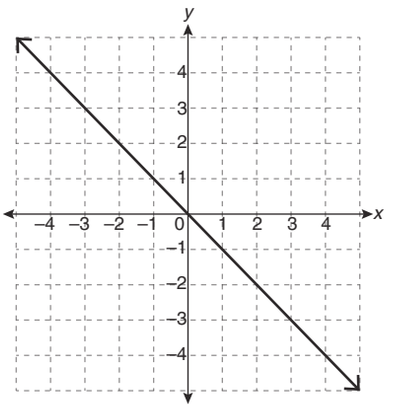
   c.



2. State the domain and range of the following relations using set builder notation and interval notation.



D: D:
R: R:



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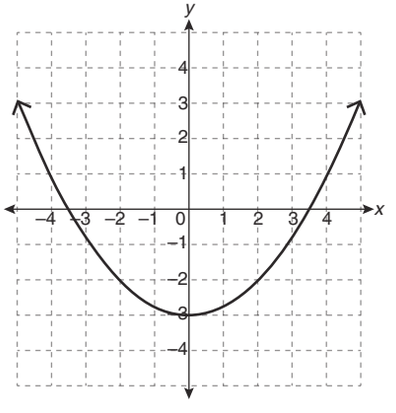
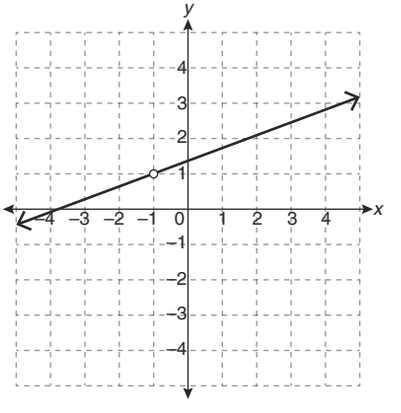
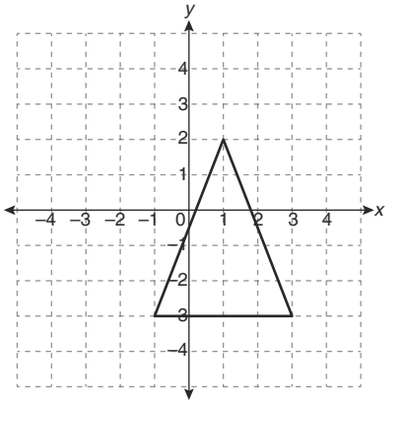


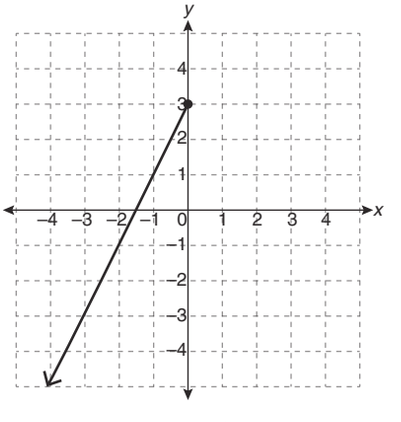
D: D:
R: R:



D: D:
R: R:



D: D:
R: R:



D: D:
R: R:

3. Pop cans can be returned to the bottle depot in exchange for a refunded deposit. Complete the following table.

Number of Pop Cans, n	Refund, r ($)
1	0.10
2	0.20
5	
10	
12	
15	
43	

a. State the independent and dependent variables for the relation.

b. Explain the relationship between the variables.

c. Explain why there cannot be negative values for this type of relation.

d. Is the data represented in this situation discrete or continuous? Explain.

e. Extrapolate how much money would be refunded when 367 pop cans returned.

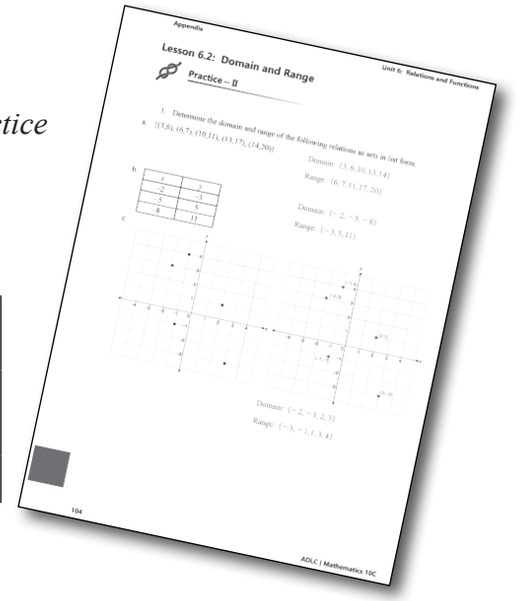
f. Determine the domain and range specific to the table of values above.

Mark your work for *Lesson 6.2 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 6.2 Practice – II* is _____.

Reflect on your understanding of the concepts addressed in the *Practice* exercises in the table provided.


Appendix

Lesson 6.2: Domain and Range

Practice – II

Unit 6: Relations and Functions

1. Determine the domain and range of the following relations as sets in list form.

a. {(3,6), (6,7), (10,11), (13,17), (14,20)}

Domain: {3, 6, 10, 13, 14}

Range: {6, 7, 11, 17, 20}

b.

1	2
−2	−3
5	5
8	11

Domain: {−2, −5, −8}

Range: {−3, 5, 11}

c.

Domain: {−2, −1, 2, 3}

Range: {−3, −1, 1, 3, 4}

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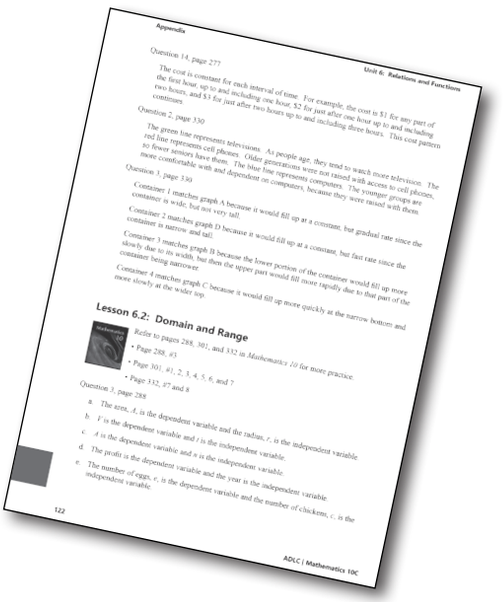
Question Number	Got it!	Almost there…	Need to retry or ask for help.
1			
2			
3			

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 288, #3
- Page 301, #1, 2, 3, 4, 5, 6, and 7
- Page 332, #7 and 8

Check your work in *Enhance Your Understanding*.


Appendix

Unit 6: Relations and Functions

Question 14, page 277

The cost is constant for each interval of time. For example, the cost is $1 for any part of the first hour, up to and including one hour, $2 for just after one hour up to and including two hours, and $3 for just after two hours up to and including three hours. This cost pattern continues.

Question 2, page 330

The green line represents televisions. As people age, they tend to watch more television. The red line represents cell phones. Older generations were not raised with access to cell phones, so fewer seniors have them. The blue line represents computers. The younger groups are more comfortable with and dependent on computers, because they were raised with them.

Question 3, page 330

Container 1 matches graph A because it would fill up at a constant, but gradual rate since the container is wide, but not very tall.

Container 2 matches graph D because it would fill up at a constant, but fast rate since the container is narrow and tall.

Container 3 matches graph B because the lower portion of the container would fill up more slowly due to its width, but then the upper part would fill more rapidly due to that part of the container being narrower.

Container 4 matches graph C because it would fill up more quickly at the narrow bottom and more slowly at the wider top.

Lesson 6.2: Domain and Range

Refer to pages 288, 301, and 332 in *Mathematics 10* for more practice.

- Page 288, #3
- Page 301, #1, 2, 3, 4, 5, 6, and 7
- Page 332, #7 and 8

Question 3, page 288

a. The area, A, is the dependent variable and the radius, r, is the independent variable.

b. V is the dependent variable and t is the independent variable.

c. A is the dependent variable and s is the independent variable.

d. The profit is the dependent variable and the year is the independent variable.

e. The number of eggs, e, is the dependent variable and the number of chickens, c, is the independent variable.

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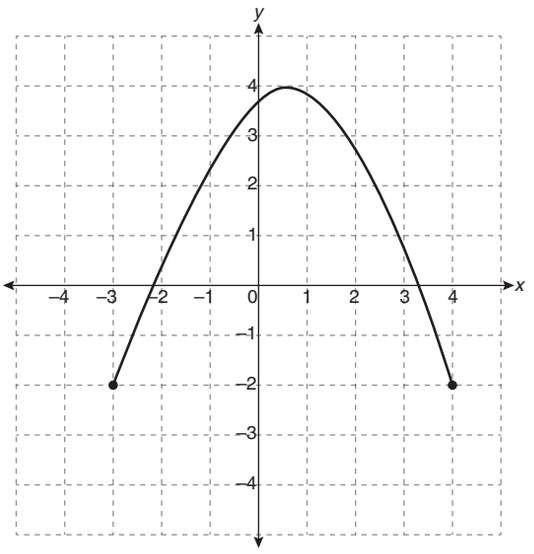
Lesson 6.2: Domain and Range

Explore Your Understanding Assignment

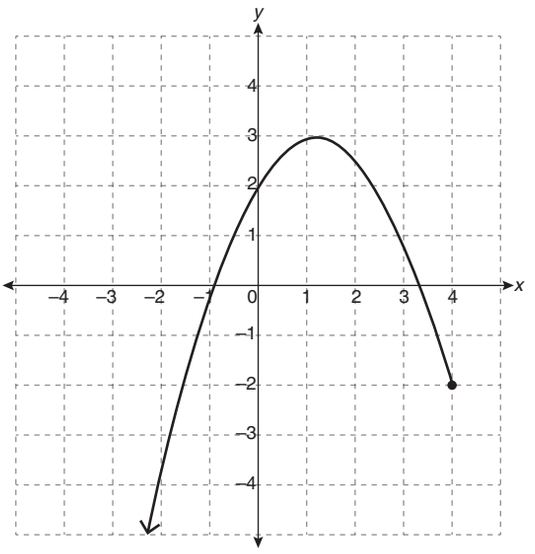
8 1. Determine the domain and range of the following relations using set builder notation.

a.



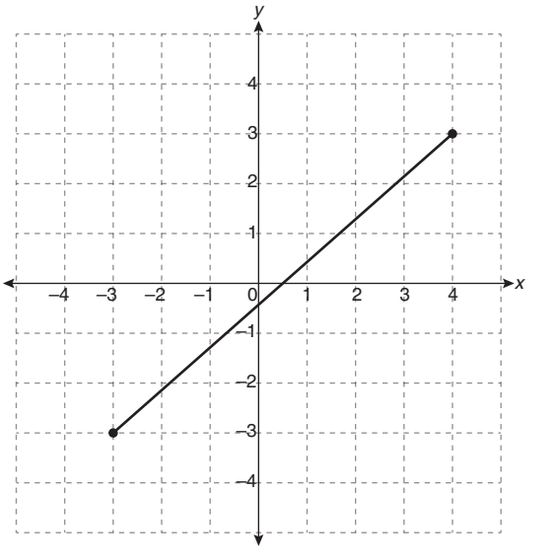
D:
R:

b.



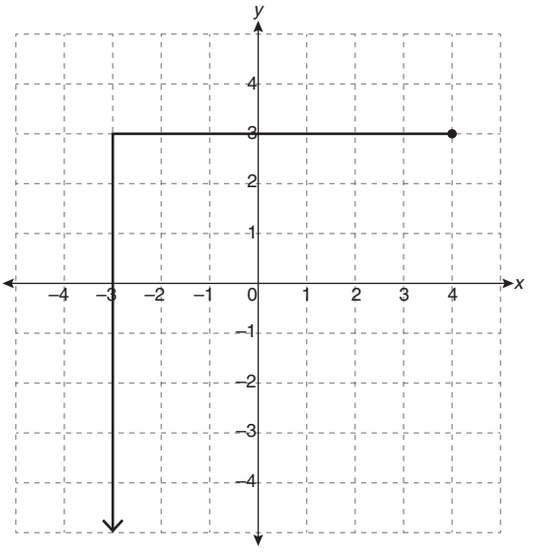
D:
R:

c.



D:
R:

d.



D:
R:

2. Match the interval notation below to the relations represented in *Question 1*.

(1) a. Domain: $[-3, 4]$ and Range: $(-\infty, 3]$
Relation: _____

(1) b. Domain: $(-\infty, 4]$ and Range: $(-\infty, 3]$
Relation: _____

3. Identify the independent and dependent variables in the following scenarios. Explain each choice.

(3) a. The number of bacteria in relation to time.

Independent variable – _____

Dependent variable – _____

_____

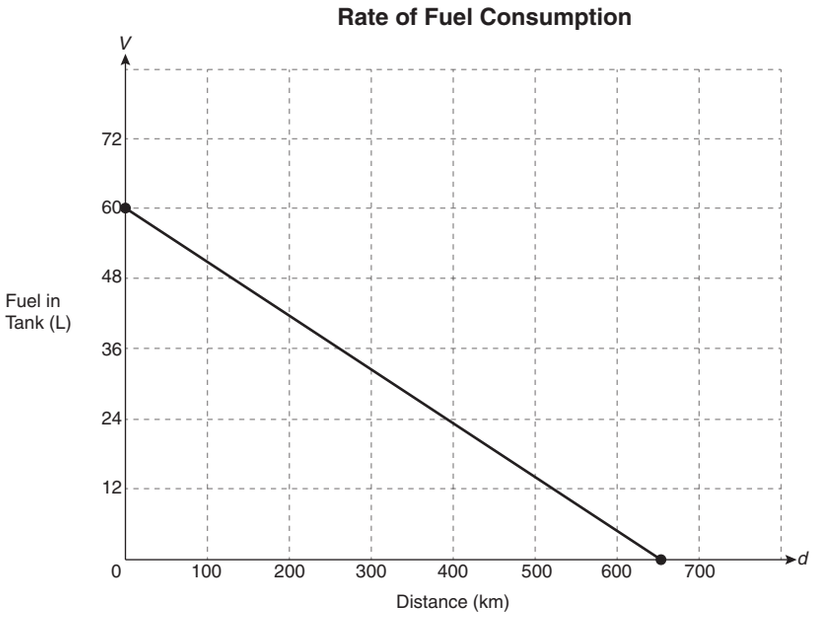
(3) b. The total cost of tickets for a concert in relation to the number of tickets purchased.

Independent variable – _____

Dependent variable – _____

_____

4. The graph shows the volume, V, of gasoline left in a car's tank after a distance travelled, d, in hundreds of kilometres.



(2) a. Determine the domain and range of the relation using set builder notation or interval notation.

(2) b. Is the data represented by the relation continuous or discrete? Explain.

_____

_____

_____

_____

/20