ALBERTA DISTANCE LEARNING CENTRE
Mathematics 30-1
MAT3791
Workbook 1.1

FOR STUDENT USE ONLY

(if label is missing or incorrect)

File Number:

_____

Apply Workbook Label Here

Name

Address

City/Town

Province

Postal Code

Please use the pre-printed label for this course and Workbook

FOR ADLC USE ONLY

Assigned to

_____

Marked by

_____

Date received

_____

Summary

	Marks Earned	Total Marks	Percent
Practice 1.1A	**I have ___ /8 and ___%**		
Practice 1.1B	**I have ___ /8 and ___%**		
Practice 1.1C	**I have ___ /8 and ___%**		
Explore Your Understanding 1.1			

Teacher's Comments:

_____

Teacher's Signature

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Much time and effort is involved in preparing learning materials and activities that meet curricular expectations as determined by Alberta Education. We ask that you respect our work by honouring copyright regulations.

Alberta Distance Learning Centre website:

http://www.adlc.ca

The Internet can be a valuable source of information. However, because publishing to the Internet is neither controlled nor censored, some content may be inaccurate or inappropriate. Students are encouraged to evaluate websites for validity and to consult multiple sources.
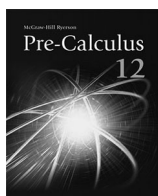
Pre-Calculus 12
© McGraw-Hill Ryerson Ltd.

Mathematics 30-1

Workbook 1.1

Lesson 1.1
Radical Functions

Instructions for Submitting Workbooks

1. Submit Workbooks **regularly** for assessment.

2. Submit only **one Workbook at a time.** This allows your teacher to provide feedback that you can apply to subsequent course work and exams.

3. Check that your **Workbook is complete.** Your Workbook will be returned as **incomplete** if a reasonable attempt with relevant work has not been made. Therefore, **do not leave any questions blank.** Contact your teacher for help **prior** to submitting this Workbook.

4. Attach the correct address label or complete the Workbook coversheet.

5. Submission Methods:

Postal Mail – Mail the completed Workbook to an Alberta Distance Learning Centre office. Ensure that you attach sufficient postage by having the envelope weighed at the post office.

Electronically – Scan the completed Workbook. Save the file to your computer as **Math 30-1 Workbook# FirstInitial LastName.** Then, upload the file.

Fax – Fax the completed Workbook to Alberta Distance Learning Centre.

In Person – Drop the completed Workbook at the Alberta Distance Learning Centre office in Barrhead. The address is listed below.

Barrhead
4601 - 63 Avenue
Barrhead, Alberta T7N 1P4
Phone 780-674-5333
Toll-free 1-866-774-5333
Fax 780-674-7593

Mathematics 30-1
Workbook 1.1

Our Pledge to You:

Enrolling in this course is another step toward an Alberta High School Diploma. Everyone at Alberta Distance Learning Centre is committed to helping students achieve their educational goals. We welcome your contact in person or by phone, fax, e-mail, voice mail, or postal mail.

Advice:

Your achievement in this course is determined by your success in the assessments of each unit. Your responses to assignments indicate your understanding of outcomes established by Alberta Education.

- Before responding to the assigned questions, read all relevant directions for the Workbook and instruction in the course materials, including the appropriate Guide for Learning and any other resources provided.

- When you encounter difficulties, re-read the directions for the Workbook and review the relevant instruction in the Guide for Learning.

- If you require further clarification, contact your Alberta Distance Learning Centre teacher for assistance.

Notice:

You have one opportunity to submit each Workbook.

- Only under exceptional circumstances will your ADLC teacher re-assess your work. Therefore, apply significant effort to each Workbook.

- If your final exam mark is vastly different from your Quiz marks, your teacher may apply discretion in determining your course mark.

ADLC Plagiarism Policy (ADLC Administrative Policy 60–1)

Program integrity and academic honesty are very important at ADLC. When students are successful in ADLC courses, we want full confidence that they have clearly met the intended program outcomes.

Plagiarism is the practice of representing someone else's work or ideas as one's own. It is an academically dishonest practice and is detrimental to a student's knowledge & skill development.

ADLC takes a progressive approach to plagiarism to educate and correct the behaviour. If a student is currently enrolled in any ADLC course and found to have plagiarized work, the following steps are taken:

Warning: ADLC Teachers decide if a warning happens instead of calling the first instance. The warning is recorded in SIS Communications.

First Instance	Second Instance	Third Instance
Students are assigned a mark of zero and a chance to redo the question or the assignment. It is up to the ADLC teacher's discretion whether or not to assign a mark of zero on the plagiarized question or on the entire assignment. ADLC teachers record a SIS Communication and a 'Student Note'.	The student is assigned a mark of zero with no chance to redo the question or the assignment. It is up to the ADLC teacher's discretion whether or not to assign a mark of zero on the plagiarized question or on the entire assignment. The ADLC Principal, or designate, is notified and the instance is recorded in SIS Communications.	Student is removed from the course in which the third instance occurred. The ADLC Principal, or designate, is notified and the instance is recorded in SIS Communications.

Important

While removal from a course is limited to the course in which the Third Instance has occurred, the preceding steps can occur across different courses. A student who has been found plagiarizing in Course A and held to the First Instance consequences who then plagiarizes in Course B will move to the Second Instance consequences.

Further Instances

After the Third Instance, any further instances of plagiarism in any course will result in immediate removal from that course. Ongoing occurrences may result in removal from all courses and barring of registration with ADLC.

Clean Slate

Students earn a clean slate after one calendar year passes with no instances.

Sharing of ADLC Work (ADLC Administrative Policy 60–4)

Plagiarism is the practice of representing someone else's work or ideas as one's own. It is a dishonest practice and is damaging to a student's knowledge & skill development. Plagiarism is addressed in ADLC Administrative Policy 60-01.

The sharing of school work, especially after having been marked by ADLC, to students for the purposes of submitting plagiarized work (either paraphrasing or directly copying student work) is dishonest, and this sharing goes against the Alberta School Act's expectation of students to respect school rules and co-operate with how schools offer education to their students.

ADLC prefers to take a progressive approach to sharing of work with other students, in order to educate and correct the behaviour.

If a student is currently enrolled in any ADLC course and found to be sharing school work, whether from their current course or another, to others:

First Incidence	Second Incidence
The student is informed that their work has been submitted as plagiarized work by another student; a warning is provided that further submissions of such work, from any course, will be grounds for removal from the current course(s).	The student is removed from all active ADLC courses.

If the student is not currently enrolled in any ADLC course and found to be sharing school work with others, they are informed that their work has been submitted as plagiarized work by another student and, as such, further registrations in any ADLC course will not be permitted. The incident will be recorded on the student's file.

Such actions do not limit ADLC to pursue other remedies (actions), either criminal or civil, for the distribution of its copyrighted materials.

Practice Assessment

Practice provides practice and allows you to self-reflect on your conceptual understanding of the Lesson skills. You will mark your work for *Practice* 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.
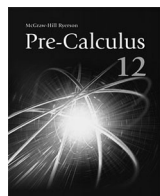
Check and correct your work using the solutions provided in *Appendix* in the *Module*.

Practice is worth 8 marks; your mark can help you gauge your understanding of *Lesson* material.

After you have assessed your work, reflect on your understanding of the concepts addressed in the *Practice* exercises in the table provided.

Practice – 1.1A

Now, try what you have learned so far. Turn to pages 72 to 77 in *Pre-Calculus 12* and do questions 1b, 1d, 3, 7a, 7b, 13a, 13c, 13d, and 14a.

You may check your practice work by turning to the *Appendix* section of the *Module.*

Questions 1b and 1d, page 72

b.

My solution	My corrections if needed

d.

My solution	My corrections if needed

Question 3, page 72

My solution	My corrections if needed

Questions 7a and 7b, page 73

a.

My solution	My corrections if needed

b.

My solution	My corrections if needed

Questions 13a, 13c, and 13d, page 75

a.

My solution	My corrections if needed

c.

My solution	My corrections if needed

d.

| My solution	My corrections if needed

Question 14a, page 75

a.

My solution	My corrections if needed

Turn to *Practice 1.1A Solutions* in the *Appendix* in *Unit 1 – Part 1*. Use the solutions to check your work and make corrections. Next, use the Practice Assessment rubric found on page 1 to give yourself a grade. **Record your grade on the cover of this booklet.** When complete, continue in the *Module*.
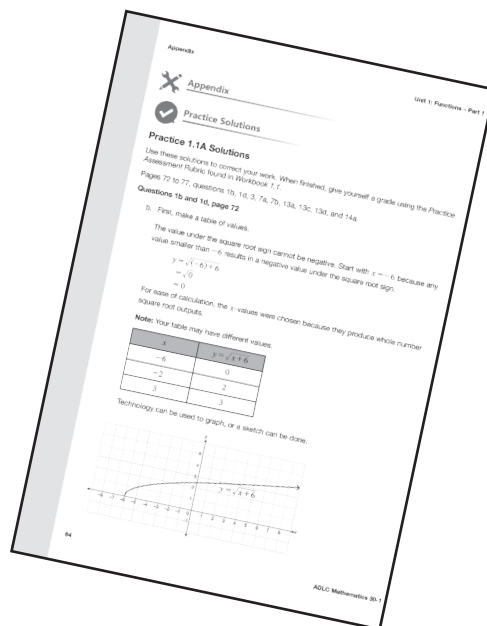
Practice – 1.1B
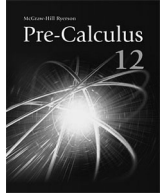
Now, try what you have learned so far. Turn to pages 86 to 89 in *Pre-Calculus 12* and do questions 1, 2b, 2c, 2f, 3, 4a to 4c, 5a, 5c, 7a, 7c, 8a to 8c, 10a, 10b, 12a, 12b, 12d, 19a, and 19b.

You may check your practice work by turning to the *Appendix* section of the *Module.*

Question 1, page 86

My solution	My corrections if needed

Questions 2b, 2c, and 2f, page 86

b.

My solution	My corrections if needed

c.

My solution	My corrections if needed

f.

My solution	My corrections if needed

Question 3, page 86

My solution	My corrections if needed

Questions 4a to 4c, page 87

a.

My solution	My corrections if needed

b.

My solution	My corrections if needed

c.

My solution	My corrections if needed

Questions 5a and 5c, page 87

a.

My solution	My corrections if needed

c.

My solution	My corrections if needed

Questions 7a and 7c, page 87

a.

My solution	My corrections if needed

c.

My solution	My corrections if needed

Questions 8a to 8c, page 87

a.

My solution	My corrections if needed

b.

My solution	My corrections if needed

c.

My solution	My corrections if needed

Questions 10a to 10b, page 87

a.

My solution	My corrections if needed

b.

My solution	My corrections if needed

Questions 12a, 12b, and 12d, page 88

a.

My solution	My corrections if needed

b.

My solution	My corrections if needed

d.

My solution	My corrections if needed

Questions 19a and 19b, page 89

a.

My solution	My corrections if needed

b.

My solution	My corrections if needed

Turn to *Practice 1.1B Solutions* in the *Appendix* in *Unit 1 – Part 1*. Use the solutions to check your work and make corrections. Next, use the Practice Assessment rubric found on page 1 to give yourself a grade. **Record your grade on the cover of this booklet.** When complete, continue in the *Module*.
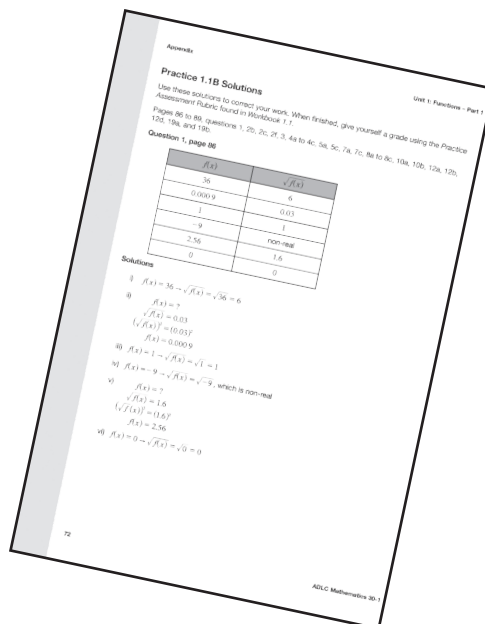
Practice – 1.1C
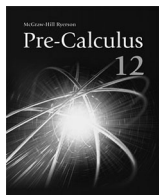
Now, try what you have learned so far. Turn to pages 96 to 98 in *Pre-Calculus 12* and do questions 2a to 2c, 5b, 5d, 8c, 10, 12a, 12b, and 17.

You may check your practice work by turning to the *Appendix* section of the *Module.*

Questions 2a to 2c, page 96

a.

My solution	My corrections if needed

b.

My solution	My corrections if needed

c.

My solution	My corrections if needed

Questions 5b and 5d, page 96

b.

My solution	My corrections if needed

d.

My solution	My corrections if needed

Question 8c, page 97

c.

My solution	My corrections if needed

Question 10, page 97

My solution	My corrections if needed

Questions 12a and 12b, page 97

a.

My solution	My corrections if needed

b.

My solution	My corrections if needed

Question 17, page 98

My solution	My corrections if needed

Turn to *Practice 1.1C Solutions* in the *Appendix* in *Unit 1 – Part 1*. Use the solutions to check your work and make corrections. Next, use the Practice Assessment rubric found on page 1 to give yourself a grade. **Record your grade on the cover of this booklet.** When complete, continue to *Explore Your Understanding Assignment 1.1.*
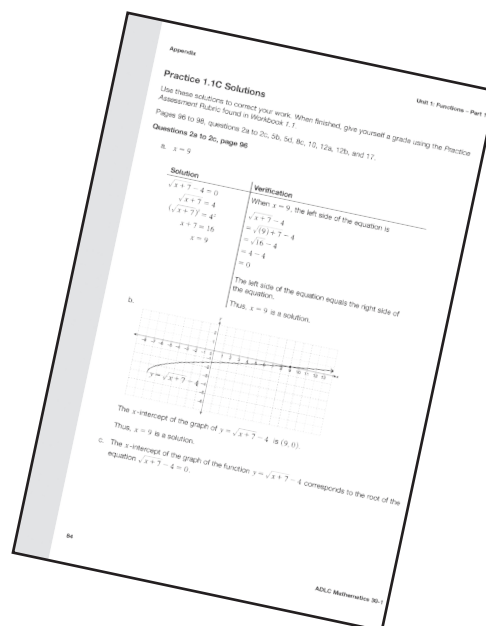
Explore Your Understanding Assignment 1.1

This assignment includes 18 marks. You are expected to complete **15 marks** worth of work. If you complete more than this, all completed questions will be used to assign a grade. For example, if you complete all 18 marks worth of work, your assignment total will be 18 instead of 15. You can also complete a question and label it "DO NOT MARK" if you are not confident in your work. Your teacher will then give feedback on your response, which will help clarify any misconceptions, but will not count it towards your required mark total. Please contact your teacher if you have any questions.

1. If $f(x) = 2x + 5$, then the graphs of $y = f(x)$ and $y = \sqrt{f(x)}$ will have two common points.

   (1)   a. What are the y-coordinates of these common points?

   _____

   (2)   b. Determine the x-coordinates of these common points, and then state the points.

2. The area of a square can be determined from its length using the formula $A = l^2$, where A represents the area and l represents the side length.

   (1)   a. Express the side length of a square as a function of its area. (Hint: The function will be of the form $l(A) =$ _____ .)

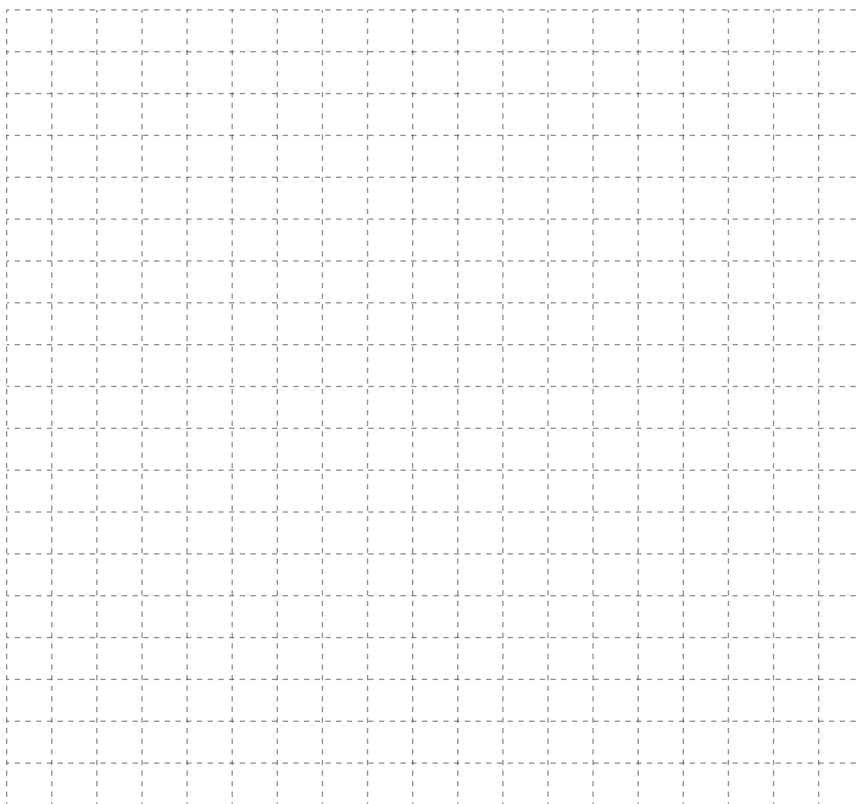   **(1)**   b. Complete the table of values using a variety of A-values and the corresponding $l(A)$-values.

A	$l(A)$
1	1
2	$\sqrt{2}$

(1)   c. Use the table of values to sketch a graph of the relationship. Make sure to label the axes and the function.

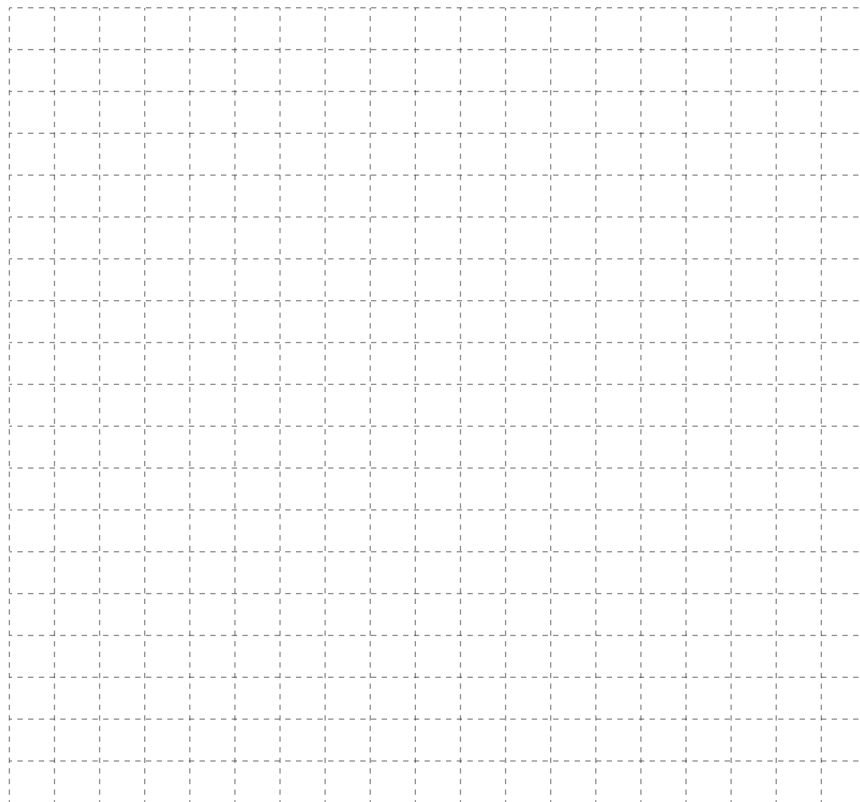(1)   d. State the domain and range of $I(A)$. Explain.

_____

_____

_____

3.   Consider the function $f(x) = -3x + 6$.

(1)   a. Sketch the graph of $y = f(x)$.

(1)   b. Explain how points on the graph of $y = f(x)$ can be mapped to points on the graph of $y = \sqrt{f(x)}$. In other words, if you know the point (x, y) lies on the graph of $y = f(x)$, what is the corresponding point on the graph of $y = \sqrt{f(x)}$?

_____

_____

_____

(1)   c. Use the strategy described in b. to determine the coordinates of some points on the graph of $y = \sqrt{f(x)}$, and then graph $y = \sqrt{f(x)}$ on the grid in part a.

x	$\sqrt{f(x)}$

(2)   d. Determine the coordinates of any invariant points between the two functions. Explain how to be certain these are invariant points and not simply intersections of the graphs.

_____

_____

_____

_____

_____

_____

4.   Consider the equation $\sqrt{-x - 1} = x + 3$.

(2)   a. Solve the equation algebraically.

(1)   b. Explain how the equation can be solved graphically.

_____
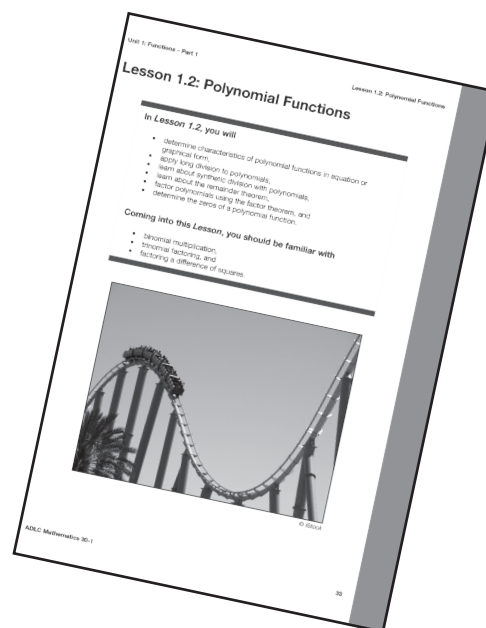
_____

(1)   c. Solve the equation graphically.

(2)   d. For which solution method is it most important to be aware of the potential for
                 extraneous solutions? How can an extraneous solution be identified?

_____

_____

_____

_____

When this workbook is complete, submit it using a method described at the beginning of this *Workbook*. Next, complete *Test Your Understanding Quiz 1.1* online in Moodle. When complete, return to the *Module* and begin *Lesson 1.2.*

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