ALBERTA DISTANCE LEARNING CENTRE
Mathematics 30-1
MAT3791
Workbook 7.1

Student's Questions and Comments

FOR STUDENT USE ONLY

(if label is missing or incorrect)
File Number:

_____

FOR ADLC USE ONLY

Assigned to

_____

Marked by

_____

Date received

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

Name

Address

City/Town **Province** **Postal Code**

Apply Workbook Label Here

Summary

	Marks Earned	Total Marks	Percent
Practice 7.1A	**I have ____ /8 and ____%**		
Practice 7.1B	**I have ____ /8 and ____%**		
Explore Your Understanding 7.1			

Teacher's Comments:

_____

Teacher's Signature

REVISED MAY 2019

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Workbook 7.1

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Alberta Distance Learning Centre website:

http://www.adlc.ca

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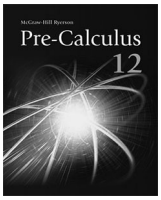

Pre-Calculus 12
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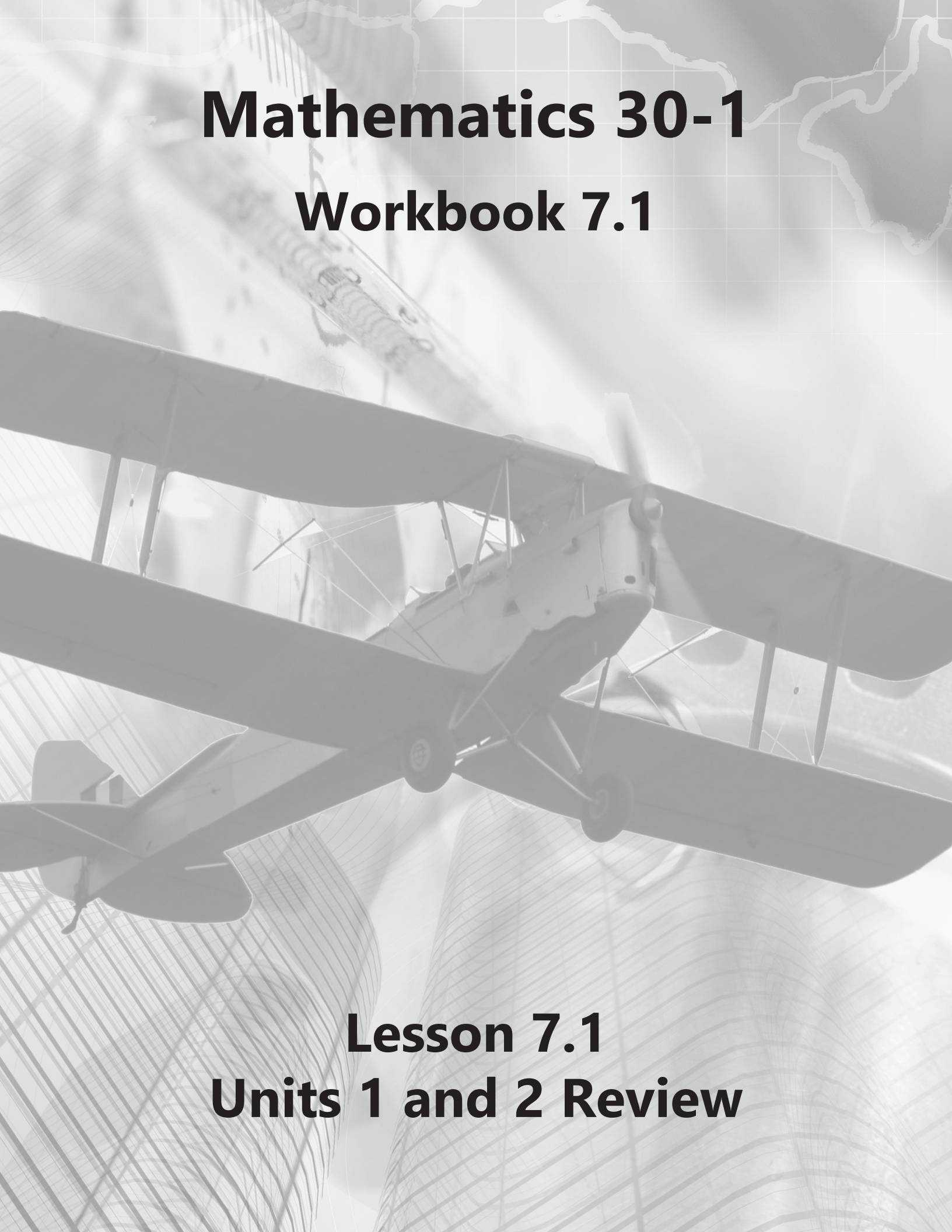
Mathematics 30-1

Workbook 7.1



Lesson 7.1
Units 1 and 2 Review

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 7.1

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

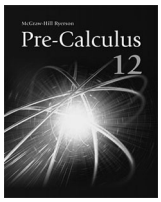
Complete *Practice* exercises using your best work, showing all relevant steps needed to arrive at your solution. Refer to the *Module* to review lesson instructions. Contact your teacher for assistance or clarification as needed, or to investigate the topic further.

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 7.1A



Now, try what you have learned so far. Turn to page 102 in *Pre-Calculus 12* and do questions 1 to 3 and 12; page 155, questions 1 to 4, 6a, and 7c; page 470, questions 1, 2, 5, 6, 10a and 10b; pages 368 to 369, questions 1, 3, 5, and 10a.

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

Question 1, page 102

My solution	My corrections if needed

Question 2, page 102

My solution	My corrections if needed

Question 3, page 102

My solution	My corrections if needed

Question 12, page 102

My solution	My corrections if needed

Question 1, page 155

My solution	My corrections if needed

Question 2, page 155

My solution	My corrections if needed

Question 3, page 155

My solution	My corrections if needed

Question 4, page 155

My solution	My corrections if needed

Question 6a, page 155

a.

My solution	My corrections if needed

Question 7c, page 155

My solution	My corrections if needed

Question 1, page 470

My solution	My corrections if needed

Question 2, page 470

My solution	My corrections if needed

Question 5, page 470

My solution	My corrections if needed

Question 6, page 470

My solution	My corrections if needed

Questions 10a and 10b, page 470

a.

My solution	My corrections if needed

b.

My solution	My corrections if needed

Question 1, page 368

My solution	My corrections if needed

Question 3, page 368

My solution	My corrections if needed

Question 5, page 368

My solution	My corrections if needed

Question 10a, page 369

a.

My solution	My corrections if needed

Turn to *Practice 7.1A Solutions* in the *Appendix* in *Unit 7*. 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*.

Unit 7: Units 1 to 6 Review

Appendix

Appendix

Practice Solutions

Practice 7.1A Solutions

Use these solutions to correct your work. When finished, give yourself a grade using the Practice Assessment rubric found in *Workbook 7.1*.

Page 102, questions 1 to 3, and 12; page 155, questions 1 to 4, 6a, and 7c; page 470, questions 1, 3, 5, 8, 10a, and 10b; pages 368 to 369, questions 1, 3, 5, and 10a

Question 1, page 102

B

Additional Notes

$y = \sqrt{x+1}$

Try the point $(0, 1)$ to see if it satisfies the function.

If $x = 0$, then

$y = \sqrt{x+1}$

$= \sqrt{0+1}$

$= 1$

The point is $(0, 1)$, which is response B.

Question 2, page 102

A

Additional Notes

The equation can be rewritten as $\sqrt{2x-5} - 4 = 0$. The x-intercepts of the graph of the corresponding function, $y = \sqrt{2x-5} - 4$, will be equal to the roots of the equation.

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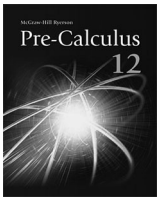
Practice 7.1B



Now, try what you have learned so far. Turn to pages 218 and 219 in *Pre-Calculus 12* and do questions 1 to 5, and 11a to 11c; page 286, questions 1 and 5; page 328, questions 1 to 4, 7, and 9.

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

Question 1, page 218

My solution	My corrections if needed

Question 2, page 218

My solution	My corrections if needed

Question 3, page 218

My solution	My corrections if needed

Question 4, page 218

My solution	My corrections if needed

Question 5, page 218

My solution	My corrections if needed

Questions 11a to 11c, page 219

a.

My solution	My corrections if needed

b.

My solution	My corrections if needed

c.

My solution	My corrections if needed

Question 1, page 286

My solution	My corrections if needed

Question 5, page 286

My solution	My corrections if needed

Question 1, page 328

My solution	My corrections if needed

Question 2, page 328

My solution	My corrections if needed

Question 3, page 328

My solution	My corrections if needed

Question 4, page 328

My solution	My corrections if needed

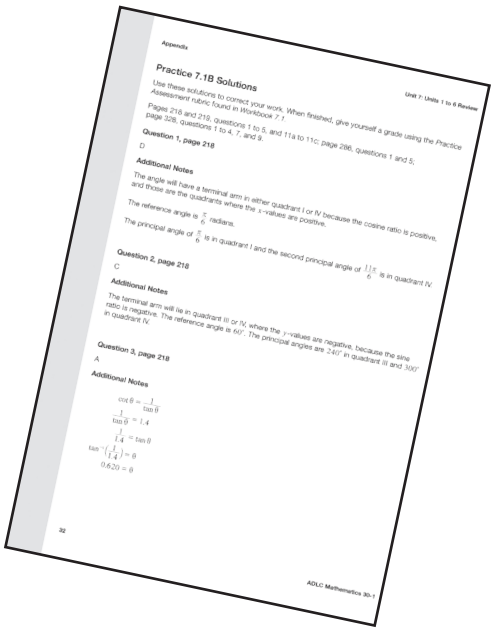
Question 7, page 328

My solution	My corrections if needed

Question 9, page 328

My solution	My corrections if needed

Turn to *Practice 7.1B Solutions* in the *Appendix* in *Unit 7*. 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 7.1.*



Appendix

Practice 7.1B Solutions

Unit 7: Units 1 to 6 Review

Use these solutions to correct your work. When finished, give yourself a grade using the Practice Assessment rubric found in Workbook 7.1.

Pages 216 and 218, questions 1 to 5, and 11a to 11c; page 286, questions 1 and 5; page 328, questions 1 to 4, 7, and 9.

Question 1, page 218

D

Additional Notes

The angle will have a terminal arm in either quadrant I or IV because the cosine ratio is positive, and those are the quadrants where the x-values are positive.

The reference angle is $\frac{\pi}{6}$ radians.

The principal angle of $\frac{\pi}{6}$ is in quadrant I and the second principal angle of $\frac{11\pi}{6}$ is in quadrant IV.

Question 2, page 218

C

Additional Notes

The terminal arm will lie in quadrant III or IV, where the y-values are negative, because the sine ratio is negative. The reference angle is $60°$. The principal angles are $240°$ in quadrant III and $300°$ in quadrant IV.

Question 3, page 218

A

Additional Notes

$$\cot\theta = \frac{1}{\tan\theta}$$
$$\frac{1}{\tan\theta} = 1.4$$
$$\frac{1}{1.4} = \tan\theta$$
$$\tan^{-1}\left(\frac{1}{1.4}\right) = \theta$$
$$0.620 = \theta$$

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ADLC Mathematics 30-1

Explore Your Understanding Assignment 7.1

This assignment includes 16 marks. You are expected to complete **13 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 16 marks worth of work, your assignment total will be 16 instead of 13. 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.

(2) 1. Given $f(x) = 9x^2 - 2$, state the domain and range of $y = f(x)$ and $y = \sqrt{f(x)}$.

(2) 2. Solve $5 + \sqrt{4x + 1} = x$ algebraically.

3. Consider the trigonometric ratio $\tan\theta = \frac{12}{5}$.

(1) a. State the reference angle, to the nearest hundredth of a radian.

(1) b. Determine all other values for θ, where $-\pi \leq \theta \leq 2\pi$.

(1) c. Determine the remaining five trigonometric rations, using exact values, if $0 < \theta < \frac{\pi}{2}$.

4. Consider the equation $4\csc\theta - 3 = 5 - \csc\theta$.

(2) a. Solve for θ, to the nearest hundredth of a radian, if $0 \leq \theta \leq 2\pi$.

(1) b. Solve for θ, to the nearest degree, if $-270^\circ \leq \theta \leq 90^\circ$.

(1) c. State the general solution in radians.

(1) d. State the general solution in degrees.

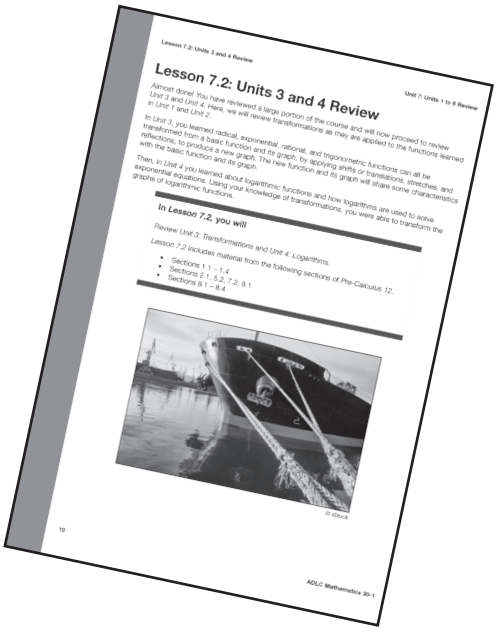
5. Consider the identity $\csc^2 x + \sec^2 x = \csc^2 x \sec^2 x$.

(1) a. State any restrictions on x.

(1) b. Rewrite the identity using only sine and cosine ratios.

(2) c. Prove the identity.

When this workbook is complete, submit it using a method described at the beginning of this *Workbook*. Next, complete *Test Your Understanding Quiz 7.1* online in Moodle. When complete, return to the Module and begin *Lesson 7.2*.



Lesson 7.2: Units 3 and 4 Review

Unit 7: Units 1 to 6 Review

Lesson 7.2: Units 3 and 4 Review

Almost done! You have reviewed a large portion of the course and will now proceed to review *Unit 3* and *Unit 4*. Here, we will review transformations as they are applied to the functions learned in *Unit 1* and *Unit 2*.

In *Unit 3*, you learned radical, exponential, rational, and trigonometric functions can all be transformed from a basic function and its graph, by applying shifts or translations, stretches, and reflections, to produce a new graph. The new function and its graph will share some characteristics with the basic function and its graph.

Then, in *Unit 4* you learned about logarithmic functions and how logarithms are used to solve exponential equations. Using your knowledge of transformations, you were able to transform the graphs of logarithmic functions.

In *Lesson 7.2*, you will

Review Unit 3: Transformations and *Unit 4: Logarithms*.

Lesson 7.2 includes material from the following sections of *Pre-Calculus 12*:

- Sections 1.1 – 1.4
- Sections 2.1, 5.2, 7.2, 9.1
- Sections 8.1 – 8.4

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