ALBERTA DISTANCE LEARNING CENTRE

Mathematics 30-1

MAT3791

Workbook 7.1

Student's Questions and Comments

FOR STUDENT USE ONLY
Student Name:
_____

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Assigned to
_____
Marked by
_____
Date received
_____

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

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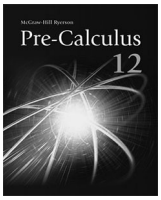

Pre-Calculus 12
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Explore Your Understanding Assignment 7.1

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.

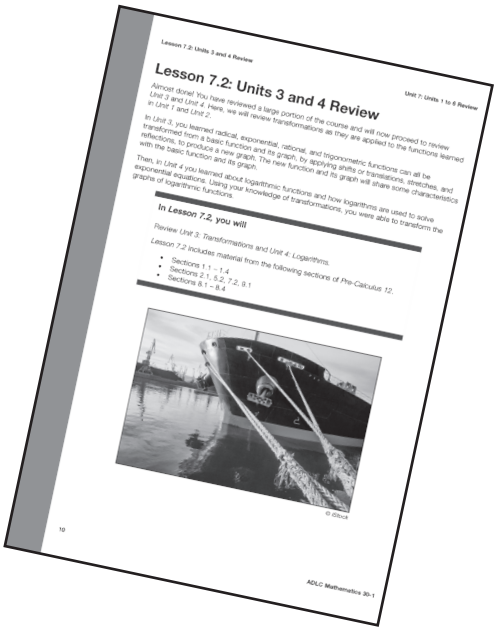
5. Consider the identity $\csc^2 x + \sec^2 x = \csc^2 x \sec^2 x$.

(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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