ALBERTA DISTANCE LEARNING CENTRE
Mathematics 30-3 Online
MAT3793
Unit A Chapter 3 Assignment

Student's Questions and Comments

FOR STUDENT USE ONLY

(if label is missing or incorrect)
Student ID:

_____

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

Name

Address

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

Apply Assignment Label Here

FOR ADLC USE ONLY

Assigned to

_____

Marked by

_____

Date received

_____

Summary

	Marks Earned	Total Marks	Percent
Lesson 1		**17**	
Lesson 2		**14**	
Lesson 3		**20**	

Teacher's Comments:

_____

Teacher's Signature

NEW September 2018

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Mathematics 30-3 Online
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Unit A Chapter 3 Assignment

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http://www.adlc.ca

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Mathematics 30-3 Online

Unit A Chapter 3 Assignment

Geometry – Trigonometry

Submission Instructions

You will submit your assignments online by uploading them to your course in Moodle. Once you log in to your course, you will find more detailed submission instructions provided by your teacher.

Go to this website to learn how to log in to Moodle:
http://quick.adlc.ca/login

If you have further questions about submitting your work, please contact your teacher.

Mathematics 30-3 Online

Unit A Chapter 3 Assignment

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 Assignment 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 Assignment 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 Assignment.

- Only under exceptional circumstances will your ADLC teacher re-assess your work. Therefore, apply significant effort to each Assignment.
- If your final exam mark is vastly different from your Quiz marks, your teacher may apply discretion in determining your course mark.

Format

You are encouraged to **handwrite** your written work.

If you type your work, be sure to follow these guidelines:

- Include your full name and student file number as a document header.
- Double-space your final copy.
- Staple your printed work to this Assignment.

ADLC Plagiarism Policy (ADLC Administrative Policy 60–1)

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 and skill development. ADLC takes a progressive approach to plagiarism to educate and correct the behaviour.

All incidents will be documented and are subject to the consequences outlined below:

First Incident	Second Incident	Third Incident
The student is given zero scores on any work suspected of being plagiarized and given the opportunity to resubmit original work.	The student is given zero scores on any work suspected of being plagiarized and is not given the opportunity to resubmit original work. A letter is sent by the principal to parents and school facilitators outlining this administrative practice and the consequences.	The student is removed from the course in which plagiarized work is suspected and notifications are put into the ADLC Student Information System, barring future registration to the course in question. A withdrawal letter is sent by the principal to parents and school facilitators.

Important

While removal from a course is limited to the course in which the third incident 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 Incident consequences who then plagiarizes in Course B will move to the Second Incident consequences.

Any further occurrences after the Third Incident in any other courses will result in immediate removal from that course. Ongoing occurrences may result in removal from all courses and barring of registration with ADLC.

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 the 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, the following will happen:

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.

Lesson 1 Assignment

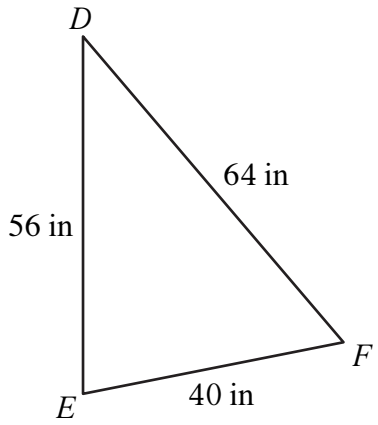
The Sine Law

Work slowly and carefully. If you are having difficulty, go back and review the appropriate *Lesson*.

For full marks, show all calculations, steps, and/or explain your answers.

Total: 17 marks.

(3) 1. List the matching pairs of sides and opposite angles in $\triangle DEF$.



a. $\angle D$ is opposite _____ in.

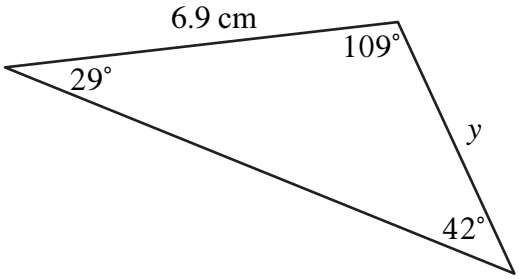
b. $\angle E$ is opposite _____ in.

c. $\angle F$ is opposite _____ in.

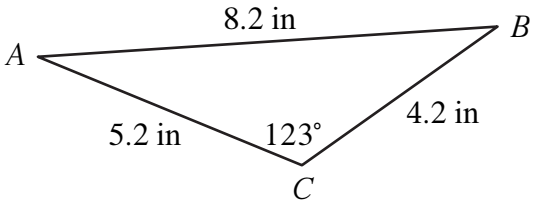
(1) 2. Evaluate $\sin 46^\circ$. Express the answer to four decimal places.

(1) 3. Find $\angle B$ if $\sin B = 0.2419$. Express the answer to the nearest degree.

(2) 4. Calculate side y using the sine law to 1 decimal place. Show all your work.

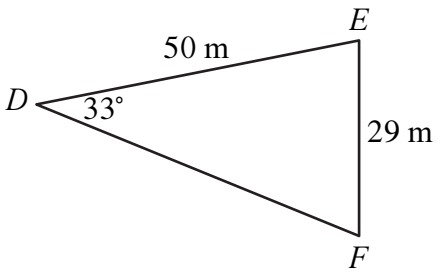


(2) 5. Calculate $\angle A$ in $\triangle ABC$ to the nearest degree using the sine law. Show all work.



6. Find the following missing angles in $\triangle DEF$. Show all work.

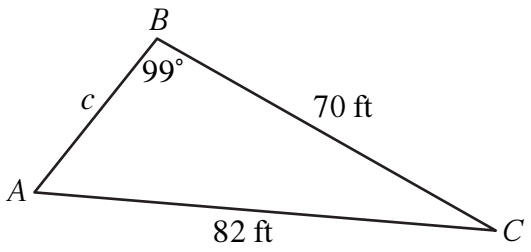
(2) a. Find $\angle F$ in $\triangle DEF$ to the nearest degree.



(1) b. Find $\angle E$ in $\triangle DEF$.

7. Find the following missing side and angles in $\triangle ABC$.

(2) a. Find $\angle A$ in $\triangle ABC$ to the nearest degree.



(1) b. Find $\angle C$ in $\triangle ABC$.

(2) c. Find side c in $\triangle ABC$ to 1 decimal place.

Lesson 2 Assignment

The Cosine Law

Work slowly and carefully. If you are having difficulty, go back and review the appropriate *Lesson*.

For full marks, show all calculations, steps, and/or explain your answers.

Total: 14 marks.

(1) 1. Evaluate each cosine ratio. Express the answer to four decimal places.

a. $\cos 18^\circ$

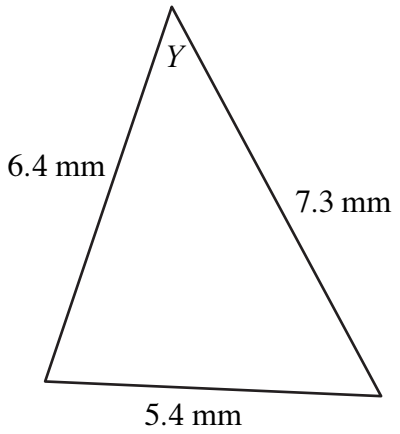
b. $\cos 110^\circ$

(1) 2. Use the cosine ratio to determine each angle measure. Express the answer to the nearest degree.

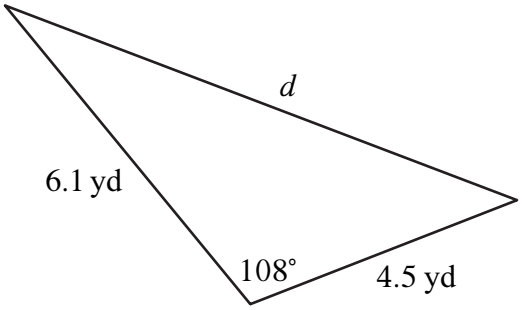
a. $\cos C = 0.4795$

b. $\cos B = -0.7308$

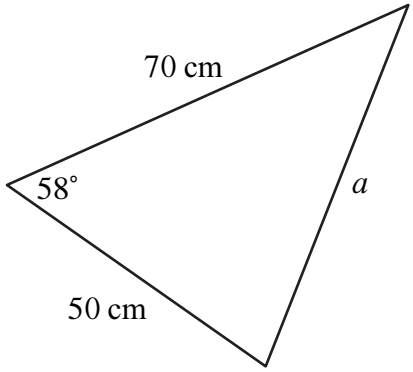
(3) 3. Use the cosine law to find $\angle Y$ to the nearest degree



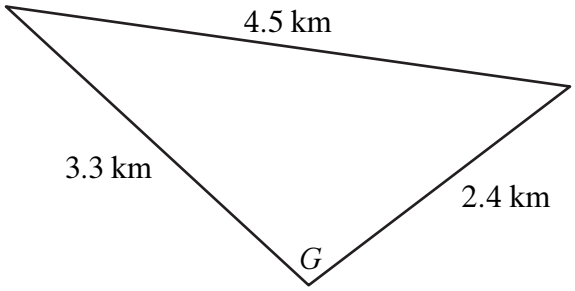
(3) 4. Find side length d using the cosine law. Express the answer to 1 decimal place.



(3) 5. Find side length a using the cosine law. Express the answer to the nearest tenth.



(3) 6. Use the cosine law to find $\angle G$ to the nearest degree.



Lesson 3 Assignment

Sine Law and Cosine Law Applications

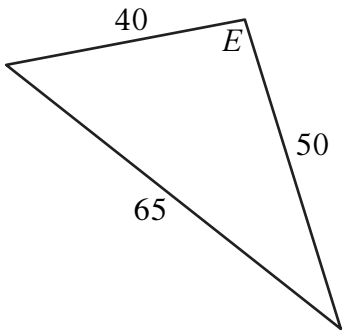
Work slowly and carefully. If you are having difficulty, go back and review the appropriate *Lesson*.

For full marks, show all calculations, steps, and/or explain your answers.

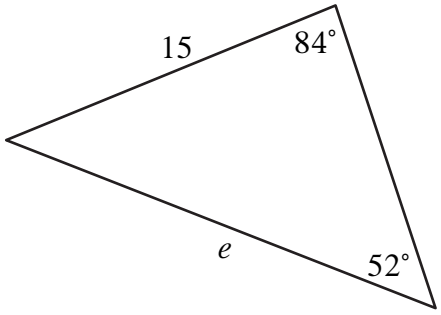
Total: 20 marks.

1. State whether the sine law or the cosine law is the best choice to solve for side e or $\angle E$. Do not solve. If it impossible to solve for the missing information, state "neither." Explain.

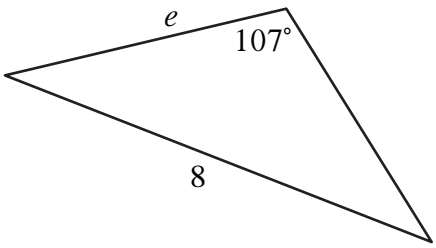
(1) a.



(1) b.



(1) c.



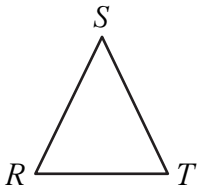
(1) _____ 2. What information do you need to know about a triangle to use the sine law?

A. two angles and two sides
B. two sides and any angle
C. all the sides
D. all the angles

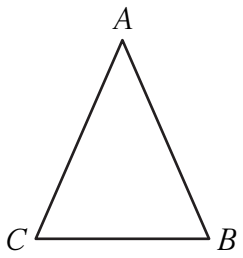
(1) _____ 3. What information do you need to know about a triangle to use the cosine law?

A. two angles and any side
B. two sides and any angle
C. all the sides
D. all the angles

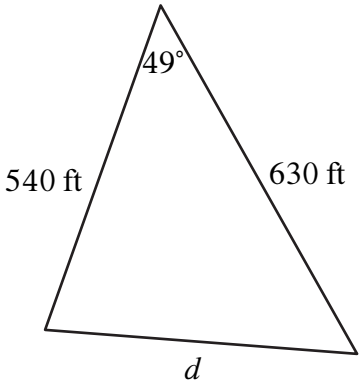
(1) 4. In $\triangle RST$, the values of side s and $\angle T$ are known. State one piece of information you need to know if you want to use the sine law to solve the triangle.



(1) 5. In $\triangle ABC$, the values of sides a and c are known. State one piece of information you need to know if you want to use the cosine law to solve the triangle.



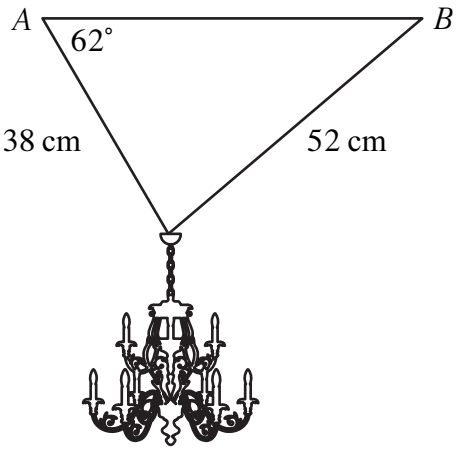
6. A triangular lot sits at the corner of two streets that intersect at an angle of $49°$. One side of the lot is 540 ft and the other side is 630 ft.



(1) a. Based on the information provided in the diagram, should the sine law or the cosine law be used to find the length of the third side of the lot?

(2) b. How long is the third side of the lot? Express your answer to the nearest tenth of a foot.

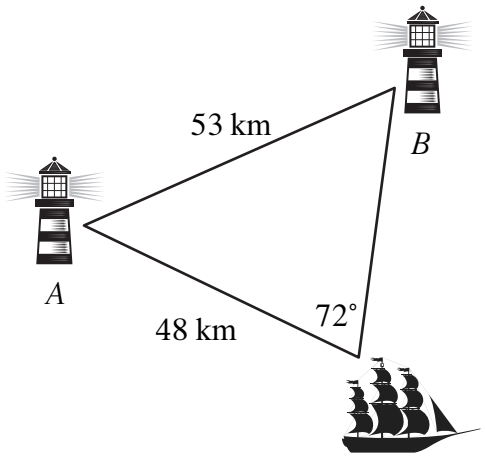
7. A chandelier is suspended on the ceiling by two chains. One chain is $38\ \text{cm}$ long and makes an angle of 62° with the ceiling. The other chain is $52\ \text{cm}$ long.



(1) a. Based on the information provided in the diagram, should the sine law or the cosine law be used to find the angle the longer chain makes with the ceiling $(\angle B)$?

(2) b. What angle does the longer chain make with the ceiling $(\angle B)$ to the nearest degree?

8. A boat leaves lighthouse A and travels $48\ \text{km}$. The boat is spotted from lighthouse B, which is $53\ \text{km}$ away from lighthouse A. The boat forms an angle of 72° between both lighthouses.

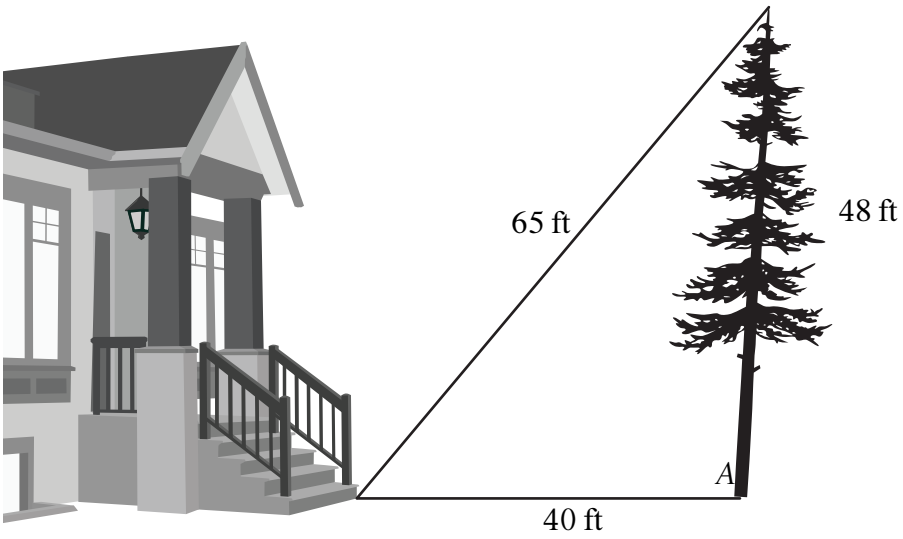


(1) a. Based on the information provided in the diagram, should the sine law or the cosine law be used to find the angle formed at lighthouse B?

(2) b. What is the angle formed at lighthouse B to the nearest degree?

(1) c. What is the angle formed at lighthouse A?

9. After a storm, a 48 ft coniferous tree leans away from a house. The base of the tree is 40 ft from the steps of the house. The top of the tree is 65 ft from the steps of the house.



(1) a. Based on the information provided in the diagram, should the sine law or the cosine law be used to find the angle that the tree makes with the ground.

(2) b. What is the angle that the tree makes with the ground $(\angle A)$ to the nearest degree?

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adlc.ca
1-866-774-5333
info@adlc.ca

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