

Apprenticeship and Workplace Math 10

LG 16&17

TRIGONOMETRY OF RIGHT TRIANGLES



INTRODUCTION:

Do you like solving sides and angles in triangles? Need to find the angle or side of a right angle triangle? Check out pages 270-271.



LEARNING GUIDE EXPECTATIONS:

On the completion of this learning guide you will be able to:

- 1) Determine the trigonometric ratios.
- 2) Determine lengths of sides of right triangles using ratios.
- 3) Determine the sizes of angles if you know the ratios.



EVALUATION:

You are ready to progress to the next learning guide when you can demonstrate your understanding of the above expectations. Please refer to your Mathematics 10 (A&W) Marks Record Sheet to determine the assessment.



RESOURCES NEEDED:



Math Works 10 Text

LEARNING ACTIVITIES:



Expectation #1: Determine the trigonometric ratios.



1. In the Math Works 10 text, read pages 270 – 278 and work through Examples 1, 2, ACTIVITY 7.1 INDIRECT MEASUREMENT, and ACTIVITY 7.2 GENERALIZATIONS OF THE PYTHAGOREAN THEOREM.



2. In your math journal, define the following terms: *right triangle*, *Pythagorean theorem*, *hypotenuse*, *leg* and *Pythagorean triple*.



3. In the Math Works 10 text, complete questions #1-7, (#8 - 13 if you want a challenge) on pages 278-282.



4. In the Math Works 10 text, read pages 283 – 289 and work through ACTIVITY 7.3 THE SINE OF AN ANGLE, and Examples 1 & 2.



5. In your math journal, define the following terms: *sine* and *angle of depression*.



6. In the Math Works 10 text, complete questions #1-8, (#9 & 10 if you want a challenge) on pages 289-291.



7. In the Math Works 10 text, read pages 292 – 297 and work through Examples 1, 2, ACTIVITY 7.4 MOVEMENT OF A FERRIS WHEEL, and Example 3.



8. In your math journal, define the following term: *cosine*.



9. In the Math Works 10 text, complete questions #1-6, (#7 - 9 if you want a challenge) on pages 297-299.



10. In the Math Works 10 text, read pages 300 – 305 and work through ACTIVITY 7.5 DRAWING A TANGENT GRAPH, Example 1, ACTIVITY 7.6 MAKING AND USING A CLINOMETER and Example 2.



11. In your math journal, define the following term: *tangent*.



12. In the Math Works 10 text, complete questions #1-7, (#8 if you want a challenge) on pages 305-306.



Expectation #2: Determine the sizes of angles if you know the ratios.



1. In the Math Works 10 text, read pages 307 – 311 and work through Examples 1 & 2 and ACTIVITY 7.7 ROCK BAND LIGHTING.



2. In the Math Works 10 text, complete questions #1-8 (#9 if you want a challenge) on pages 311-314.

REVIEW AND CHALLENGE



1. In the Math Works 10 text, read page 315 and complete Chapter 7 Practice Your New Skills pages 316-319 #1-13.