bananalearn

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Heights and distances with trigonometry: Grade 10

Practice worksheet - Maths · Grade 10

Name: _____ Date: _____

Show your working. Answers are not included in this copy.

Unless stated otherwise, assume level horizontal ground, vertical objects and observation from ground level. Show a labelled triangle and give units.

Write an answer and your reason before opening the explanation. Check the reasoning as well as the final answer.

1. Which ratio connects opposite and adjacent sides?

2. Where is an elevation angle measured from?

3. From ground level, distance 8 m and elevation 45°. Height?

4. Distance 9 m and elevation 60° from ground level. Height?

5. Height 12 m and elevation 45°. Horizontal distance?

6. Height 10 m and elevation 30°. Horizontal distance?

7. Rise above eye is 7 m and eye height is 1.4 m. Total?

8. A 6 m ladder is at 30° to ground. Height reached?

Practice continued

9. At 60° to ground, what height does the same 6 m ladder reach?

10. A 15 m lookout sees a ground object at 45° depression. Horizontal distance?

11. At 30°, should rise exceed horizontal distance?

12. Can you combine a distance in metres and a height in centimetres directly in a ratio?

13. Does the line of sight represent the horizontal ground distance?

14. Why should level ground be stated?