Chapter 7 Practice Test

Student Text Pages
390–391

Suggested Timing
60–80 min

Tools
- protractor
- ruler

Related Resources
- G–4 Protractor
- BLM 7–17 Chapter 7 Practice Test
- BLM 7–18 Chapter 7 Test
- BLM 7–19 Chapter 7 Practice Test Achievement Check Rubric

Accommodations

Gifted and Enrichment—Challenge students to prepare extra Chapter Review questions for their classmates.

Motor—Allow students to work with an educational assistant and to give oral responses to the questions in the Chapter Review and the Practice Test.

Language—Let students work with a reading buddy to complete the questions in the Chapter Review and the Practice Test.

Memory—Provide students with a formula sheet to use when completing the questions.

Study Guide

Use the following study guide to direct students who have difficulty with specific questions to appropriate examples to review.

Question	Section(s)	Refer to
1	7.1	Investigate (page 330)
2	7.1	Investigate (page 330)
3	7.1	Investigate (page 330)
4	7.3/7.4	Example 2 (page 358)/Example 2 (page 369)
5	7.3/7.4	Example 3 (pages 358–359)/Example 3 (pages 369–370)
6	7.4	Example 4 (pages 370–371)
7	7.4	Example 4 (pages 370–371)
8	7.2	Example 1 (pages 343–344)
9	7.5	Example 1a) (page 378)
10	7.5	Example 1a) (page 378)
11	7.5	Example 2 (pages 379–380)
12	7.5	Example 2 (pages 379–380)
13	7.2/7.3/7.4	Example 1 (pages 343–344)/Example 4 (page 360)/ Example 4 (pages 370–371)

Using the Practice Test

This Practice Test can be assigned as an in-class or take-home assignment. If it is used as an assessment, use the following guidelines to help you evaluate the students.

Can students do each of the following?
- Identify congruent and similar figures
- Show why two triangles are similar
- Apply similar triangles to solve problems
- Identify the primary trigonometric ratios given three side lengths of a right triangle
- Find the sine, cosine, and tangent of an angle
- Apply the primary trigonometric ratios to solve for unknown sides and angles in right triangles
- Identify angles of elevation and depression
- Apply trigonometry to solve problems involving right triangles in two- and three-dimensions

Summative Assessment

- After students complete **BLM 7–17 Chapter 7 Practice Test**, use **BLM 7–18 Chapter 7 Test** as a summative assessment.

Achievement Check Sample Solution, question 13, page 391

Provide students with **BLM 7–19 Chapter 7 Practice Test Achievement Check Rubric** to help them understand what is expected.

13. a) $\angle ACB = \angle EDB$ Both are 65°.
$\angle ABC = \angle EBD$ Both are 90°.
$\angle CAB = \angle DEB$ The sum of the angles in any triangle is 180°.
$\triangle ABC \sim \triangle EBD$ All three pairs of angles are equal.
The corresponding sides are AB and EB, AC and ED, and BC and BD.

b) Consider $\triangle ABC$.

$$\tan 65° = \frac{AB}{BC}$$
$$\tan 65° = \frac{AB}{38}$$
$$38(\tan 65°) = AB$$
$$81 \doteq AB$$

The height of the tower is about 81 m.

c) Consider $\triangle ABC$.

$$\cos 65° = \frac{BC}{AC}$$
$$\cos 65° = \frac{38}{AC}$$
$$AC = \frac{38}{\cos 65°}$$
$$AC \doteq 90$$

Consider $\triangle ABC$.

$$\sin 65° = \frac{BE}{ED}$$
$$\sin 65° = \frac{60}{ED}$$
$$ED = \frac{60}{\sin 65°}$$
$$ED \doteq 66$$

The lengths of the supporting cables are about 90 m and 66 m.

d) The distance between the fasteners is CB + BD. Find BD.

$$\tan 65° = \frac{EB}{BD}$$
$$\tan 65° = \frac{60}{BD}$$
$$BD = \frac{60}{\tan 65°}$$
$$DB \doteq 28$$

The fasteners are 38 + 28, or 66 m apart.