Chapter 8 Practice Test

1. To find \( \angle Q \) in \( \triangle QSL \), apply

A the sine law  
B the cosine law  
C the tangent law  
D the primary trigonometric ratios

![Triangle QSL with sides 12 mm, 10 mm, and 11 mm]

2. The cosine law states that

A \[ a^2 + b^2 = c^2 \]  
B \[ a^2 = b^2 + c^2 - 2bc \sin A \]  
C \[ \frac{a}{\sin A} = \frac{b}{\sin B} \]  
D \[ a^2 = b^2 + c^2 - 2bc \cos A \]

3. The angle of elevation is

A measured above a horizontal line  
B measured below a horizontal line  
C equal to 90°  
D equal to the angle of depression

4. To solve \( \triangle KLM \), first apply

A the primary trigonometric ratios  
B the tangent law  
C the cosine law  
D the sine law

![Triangle KLM with sides 7 cm, 8 cm, and 14 mm]

5. The smallest angle in \( \triangle ABC \) is

A \( \angle A \)  
B \( \angle B \)  
C \( \angle C \)  
D impossible to determine

![Triangle ABC with sides 7 cm, 5 cm, and 6 cm]

6. Find the length of the indicated side in each triangle, to the nearest tenth of a unit.

a) 

![Triangle with \( \angle D = 66° \) and \( \angle M = 73° \)]

b) 

![Triangle with \( \angle S = 54° \) and \( \text{side } SB = 10 \text{ km} \)]
7. Find the measure of the indicated angle in each triangle, to the nearest tenth of a degree.
   a) 
   
   b)  
   
8. Use Technology Check your answers to question 7 using dynamic geometry software.

9. Draw a diagram and label the given information. Then, solve each triangle. Round answers to the nearest unit.
   a) In $\triangle AFR$, $\angle A = 67^\circ$, $\angle F = 73^\circ$, and $a = 15$ cm.
   b) In $\triangle DLM$, $\angle D = 62^\circ$, $l = 8$ m, and $m = 5$ m.

10. Use the measurements given in the diagram to find the height of the building, to the nearest metre.