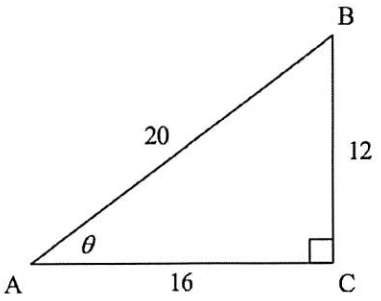
Pre-Calculus 11 **Chapter 2 Review**

Multiple Choice
Identify the choice that best completes the statement or answers the question.

____ **1.** Determine sin θ and cos θ to the nearest tenth.



A. sin $\theta = 0.8$; cos $\theta = 0.6$
B. sin $\theta = 0.6$; cos $\theta = 0.8$
C. sin $\theta = 1.7$; cos $\theta = 0.8$
D. sin $\theta = 0.6$; cos $\theta = 1.3$

____ **2.** In ΔXYZ, XY = 6 cm and $\angle X = 33°$. For which value of YZ is no triangle possible?
A. 6 cm **B.** 3 cm **C.** 4 cm **D.** 12 cm

Short Answer

1. In ΔKLM, KL = 5.1 cm, LM = 6.9 cm, and $\angle M = 33°$.
a) Determine how many triangles can be constructed. Justify your answer.
b) Sketch a diagram to show any possible triangles.

2. Point P(7, 9) is on the terminal arm of an angle θ in standard position. Determine the measure of θ to the nearest degree.

3. Point P(9, 4) is on the terminal arm of an angle θ in standard position. To the nearest tenth, determine the distance from the origin to P.

4. An angle θ has its terminal arm in Quadrant 2. Which primary trigonometric ratio is greater than 0?

5. In which quadrant does the terminal arm of a $313°$ angle in standard position lie?

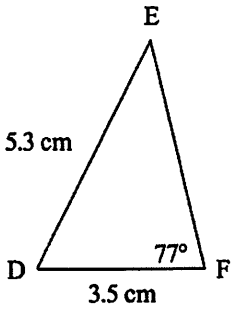
6. Determine the reference angle for the angle 290° in standard position.

7. The point P(4, –3) lies on the terminal arm of an angle θ in standard position. Determine the measure of θ to the nearest degree.

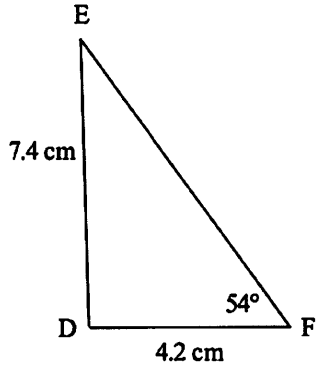
8. Angle θ is in standard position and its terminal arm lies in Quadrant 4. The sine of its reference angle is $\frac{4}{6}$. Determine the exact value of $\cos\theta$.

9. In ΔDEF, DE = 8 cm and $\angle D = 60°$. When EF = 7 cm, how many triangles are possible?

10. For ΔDEF, write the Sine Law equation you would use to determine the measure of $\angle E$.

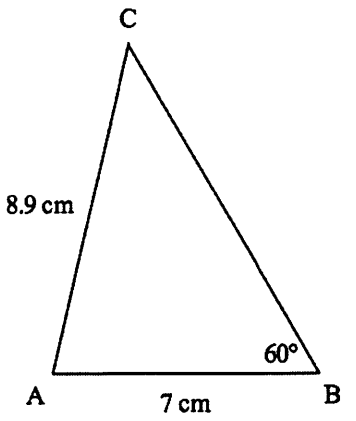


11. For ΔDEF, determine the measure of $\angle E$ to the nearest degree.

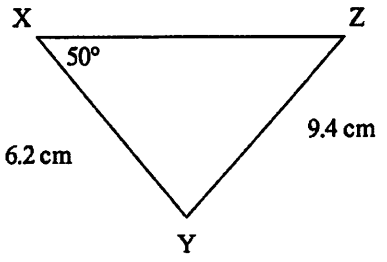


12. In ΔABC, AB = 6 cm, BC = 7 cm, and $\angle A = 47°$, how many triangles can be drawn?

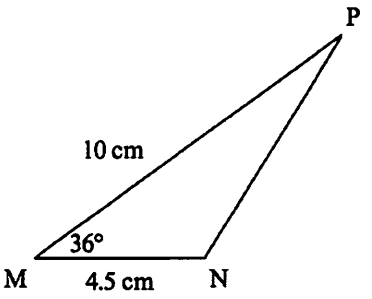
13. For ΔABC, determine the measure of $\angle A$ to the nearest degree.



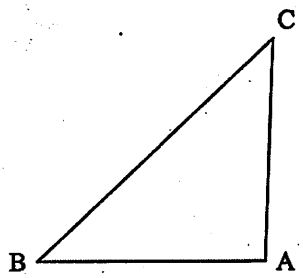
14. For ΔXYZ, determine the measure of $\angle Z$ to the nearest degree and the measure of XZ to the nearest tenth of a centimetre.



15. In ΔPMN, determine the length of PN to the nearest tenth of a centimetre.



16. In ΔABC, AB = 6 cm, BC = 8.5 cm, and AC = 5.8 cm. Determine the measure of $\angle B$ to the nearest degree.


C
B
A

Pre-Calculus 11 **Chapter 6 Review**

Answer Section

MULTIPLE CHOICE

1. ANS: B PTS: 0 DIF: Easy
   REF: 6.1 Angles in Standard Position in Quadrant 1 LOC: 11.T1
   TOP: Trigonometry KEY: Conceptual Understanding
2. ANS: B PTS: 0 DIF: Easy REF: 6.3 Constructing Triangles
   LOC: 11.T3 TOP: Trigonometry KEY: Procedural Knowledge

SHORT ANSWER

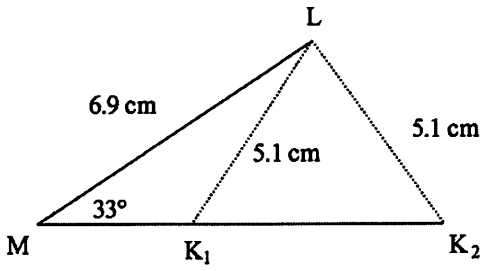
1. ANS:

   a) $\frac{KL}{LM} = \frac{5.1}{6.9} = 0.7391...$

   $\sin 33° = 0.5446...$

   Since $\sin 33° < \frac{KL}{LM} < 1$, two triangles are possible.

   b)



   PTS: 0 DIF: Moderate REF: 6.4 The Sine Law
   LOC: 11.T3 TOP: Trigonometry
   KEY: Conceptual Understanding | Communication
2. ANS:
   $\theta = 52°$

   PTS: 0 DIF: Easy REF: 6.1 Angles in Standard Position in Quadrant 1
   LOC: 11.T1 TOP: Trigonometry
   KEY: Conceptual Understanding | Procedural Knowledge
3. ANS:
   9.8

   PTS: 0 DIF: Easy REF: 6.1 Angles in Standard Position in Quadrant 1
   LOC: 11.T1 TOP: Trigonometry
   KEY: Conceptual Understanding | Procedural Knowledge
4. ANS:
   $\sin \theta$

PTS: 0 DIF: Easy REF: 6.2 Angles in Standard Position in All Quadrants
LOC: 11.T1 TOP: Trigonometry KEY: Conceptual Understanding

5. ANS:
Quadrant 4

PTS: 0 DIF: Easy REF: 6.2 Angles in Standard Position in All Quadrants
LOC: 11.T1 TOP: Trigonometry KEY: Conceptual Understanding

6. ANS:
70°

PTS: 0 DIF: Easy REF: 6.2 Angles in Standard Position in All Quadrants
LOC: 11.T1 TOP: Trigonometry
KEY: Conceptual Understanding | Procedural Knowledge

7. ANS:
323°

PTS: 0 DIF: Moderate REF: 6.2 Angles in Standard Position in All Quadrants
LOC: 11.T2 TOP: Trigonometry
KEY: Conceptual Understanding | Procedural Knowledge

8. ANS:
$\frac{\sqrt{20}}{6}$

PTS: 0 DIF: Moderate REF: 6.2 Angles in Standard Position in All Quadrants
LOC: 11.T2 TOP: Trigonometry
KEY: Conceptual Understanding | Procedural Knowledge

9. ANS:
2

PTS: 0 DIF: Easy REF: 6.3 Constructing Triangles
LOC: 11.T3 TOP: Trigonometry KEY: Procedural Knowledge

10. ANS:
$\frac{\sin E}{3.5} = \frac{\sin 77°}{5.3}$

PTS: 0 DIF: Easy REF: 6.4 The Sine Law
LOC: 11.T3 TOP: Trigonometry KEY: Conceptual Understanding

11. ANS:
27°

PTS: 0 DIF: Easy REF: 6.4 The Sine Law
LOC: 11.T3 TOP: Trigonometry KEY: Procedural Knowledge

12. ANS:
1

PTS: 0 DIF: Easy REF: 6.4 The Sine Law
LOC: 11.T3 TOP: Trigonometry
KEY: Conceptual Understanding | Procedural Knowledge

13. ANS:
77°

PTS: 0 DIF: Moderate REF: 6.4 The Sine Law
LOC: 11.T3 TOP: Trigonometry
KEY: Conceptual Understanding | Procedural Knowledge

14. ANS:
$\angle Z = 30°$; $XZ = 12.1$ cm

PTS: 0 DIF: Moderate REF: 6.4 The Sine Law
LOC: 11.T3 TOP: Trigonometry
KEY: Conceptual Understanding | Procedural Knowledge

15. ANS:
6.9 cm

PTS: 1 DIF: Moderate REF: 6.5 The Cosine Law
LOC: 11.T3 TOP: Trigonometry
KEY: Conceptual Understanding | Procedural Knowledge

16. ANS:
43°

PTS: 1 DIF: Moderate REF: 6.5 The Cosine Law
LOC: 11.T3 TOP: Trigonometry
KEY: Conceptual Understanding | Procedural Knowledge