

$$\frac{\sin A}{a} = \frac{\sin B}{b} = \frac{\sin C}{c}$$

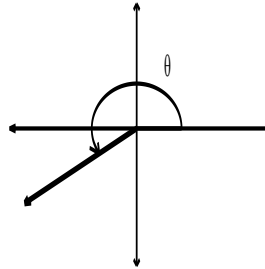
$$a^2 = b^2 + c^2 - 2bc \cdot \cos A$$

$$\cos A = \frac{b^2 + c^2 - a^2}{2bc}$$

8 **Part I:** **Multiple Choice. Place the correct answer in the corresponding blank at the end of this section.**

1. What is the measure of the reference angle, in degrees, for $\theta = 217^\circ$ in the graph below?

- (A) 37°
 (B) 53°
 (C) 143°
 (D) 217°



2. If $P(5, -8)$ is on the terminal arm of θ , what is the measure of θ , to the nearest degree?

- (A) 32
 (B) 58
 (C) 302
 (D) 328

3. Solve for θ , where $0^\circ \leq \theta \leq 360^\circ$: $\cos \theta = \frac{\sqrt{3}}{2}$

- (A) 30° and 150°
 (B) 30° and 210°
 (C) 30° and 330°
 (D) 30° and 360°

4. What is the exact value of $\sin 210^\circ$?

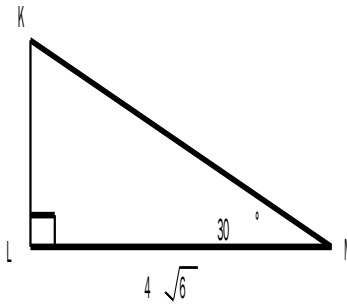
- (A) $-\frac{\sqrt{3}}{2}$
- (B) $-\frac{1}{2}$
- (C) $\frac{1}{2}$
- (D) $\frac{\sqrt{3}}{2}$

5. If $\sin \theta = -0.3746$ and $\tan \theta = -0.4040$, in which quadrant is θ ?

- (A) I
- (B) II
- (C) III
- (D) IV

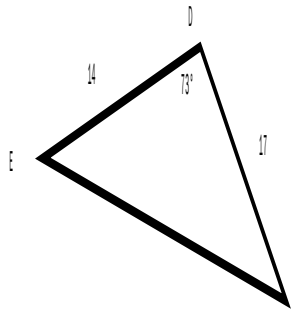
6. If $\angle L = 90^\circ$, $\angle M = 30^\circ$, and $\overline{LM} = 4\sqrt{6}$ in $\triangle KLM$, what is the exact length of \overline{KL} ?

- (A) $2\sqrt{6}$
- (B) $4\sqrt{2}$
- (C) $12\sqrt{2}$
- (D) $8\sqrt{6}$



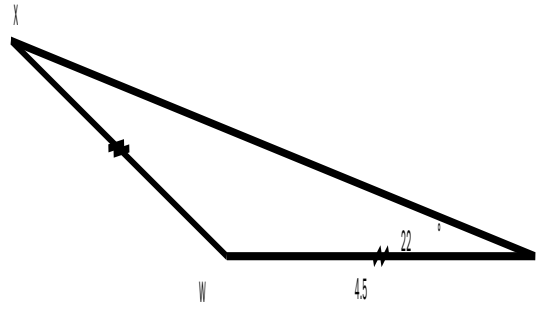
7. If $\overline{DE} = 14$, $\overline{DF} = 17$ and $\angle D = 73^\circ$ in $\triangle DEF$, what is the measure of \overline{EF} , to the nearest tenth?

- (A) 18.6
- (B) 20.4
- (C) 345.96
- (D) 416.16



8. If $\angle Y = 22^\circ$, $\overline{WY} = 4.5$ and $\overline{WY} = \overline{WX}$, what is the length of \overline{XY} in $\triangle WXY$?

- (A) 2.4
- (B) 4.5
- (C) 8.3
- (D) 11.1

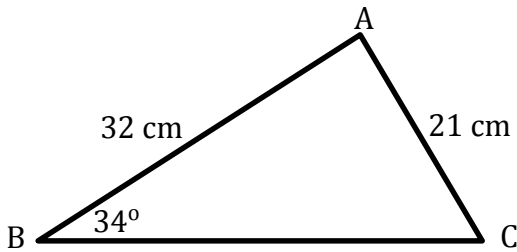


Answers to multiple choice.

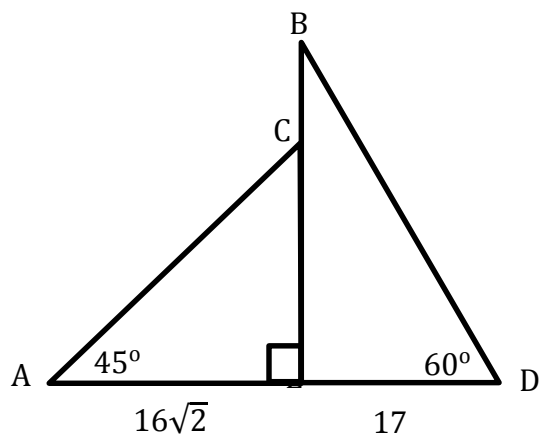
1. ___ 2. ___ 3. ___ 4. ___
5. ___ 6. ___ 7. ___ 8. ___

16 **Part II:** **Constructed Response. Answer each question in the space provided. Show all workings.**

4 9. Given $\triangle ABC$, solve for $\angle C$.



- 4 10. Determine the **exact** length of \overline{BC} .



4 11. Determine the measure of $\angle B$ to the nearest degree.

