Geometry Chapter 5 Quiz #1 Take Home

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

1. In the figure below \( c = 12 \). What is the measure of \( b \)?

   ![Diagram](image1)

   A) 6  
   B) \( 6 \sqrt{3} \)  
   C) \( 12 \sqrt{3} \)  
   D) 24  
   E) None of these

2. Which of the following is an equation that will find the value of \( x \) in the figure below?

   ![Diagram](image2)

   A) \( x = 10 \sin(32^\circ) \)  
   B) \( x = 10 \cos(32^\circ) \)  
   C) \( x = 10 \tan(32^\circ) \)  
   D) \( x = \frac{10}{\cos(32^\circ)} \)  
   E) None of these

3. The formula to find the area of a parallelogram is . . .

   A) \( \frac{1}{2} bh \)  
   B) \( \frac{1}{2} (b_1+b_2)h \)  
   C) \( bh \)  
   D) \( a^2 + b^2 = c^2 \)
You may write on this test form, but mark your answers on the Answer Document and show all your work for each problem in your Learning Log. MARK all figures!

4. In the figure below, \( \sin x = \frac{5}{13} \), what are the values for \( \cos x \) and \( \tan x \)?

\[
\begin{align*}
A) \quad \cos x &= \frac{12}{13} \quad \text{and} \quad \tan x = \frac{5}{12} \\
B) \quad \cos x &= \frac{12}{13} \quad \text{and} \quad \tan x = \frac{12}{5} \\
C) \quad \cos x &= \frac{13}{12} \quad \text{and} \quad \tan x = \frac{5}{12} \\
D) \quad \cos x &= \frac{13}{12} \quad \text{and} \quad \tan x = \frac{12}{5} \\
E) \quad \text{None of these}
\end{align*}
\]

5. A right triangle has legs of length 7 and 3. What is the length of the hypotenuse?

\[
\begin{align*}
A) \quad 10 \\
B) \quad \sqrt{40} \\
C) \quad \sqrt{45} \\
D) \quad \sqrt{58} \\
E) \quad \text{None of these}
\end{align*}
\]

6. Given the triangles to the right, what conjecture can be used to show \( \triangle DEF \sim \triangle TRV \)?

\[
\begin{align*}
A) \quad \text{AA}~ & \quad \text{D) \ ASA}~ \\
B) \quad \text{SAS}~ & \quad \text{E) \ None of these} \\
C) \quad \text{SSS}~ &
\end{align*}
\]

7. Which of the following is a valid equation that can be used to solve for \( x \) in the diagram?

\[
\begin{align*}
A) \quad \sin(40^\circ) &= \frac{x}{60} \\
B) \quad \cos(40^\circ) &= \frac{x}{60} \\
C) \quad \tan(40^\circ) &= \frac{x}{60} \\
D) \quad \tan(40^\circ) &= \frac{60}{x} \\
E) \quad \text{None of these}
\end{align*}
\]
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8. Given $\angle 1 \cong \angle 2$, which theorem could be used to show that $\triangle ABN \sim \triangle YXN$?

   ![Diagram of triangles ABN and YXN]

   A) AA$\sim$  
   B) SAS$\sim$  
   C) SSS$\sim$

9. The value of $x$ is

   ![Diagram with equations]

   A) 65°  
   B) 48°  
   C) 13°

10. The measure of $\angle A = ?$

    ![Diagram with angles]

    A) 40°  
    B) 60°  
    C) 65°

11. The measure of $\angle EKG$ is:

    ![Diagram with angles]

    A) 10°  
    B) 20°  
    C) 40°
12. The measure of \( \angle A \) is:

\[2x + 20^\circ\]

\[4x - 30^\circ\]

A) \( 25^\circ \)  
B) \( 40^\circ \)  
C) \( 70^\circ \)  
D) \( 155^\circ \)  
E) None of these

Use the diagram for the following two questions.

13. \( \angle 1 \) and \( \angle 7 \) are \___________\ angles.

A) Supplementary  
B) Corresponding  
C) Parallel  
D) Alternate Interior  
E) None of these

14. \( \angle 2 \) and \( \angle 3 \) are \___________\ angles.

A) Corresponding  
B) Vertical  
C) Right  
D) Supplementary  
E) None of these

15. The area of the trapezoid shown below is found by:

\[ \text{Area} = \frac{1}{2}(12 + 16)(8) \]

\[ \text{Area} = \frac{1}{2}(16 + 16)(7) \]

A) \( \frac{1}{2}(12 + 16)(8) \)
B) \( (16)(7) \)
C) \( \frac{1}{2}(12 + 16)(7) \)

D) \( \frac{1}{2}\left(\frac{12 + 16}{2}\right)(7) \)
E) None of these