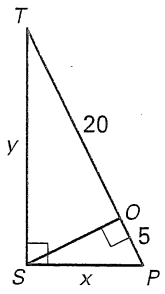
CHAPTER 9

NAME _____ DATE _____

SAT/ACT Chapter Test

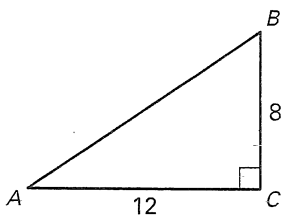
For use after Chapter 9

1. Use the diagram to find the values of x and y.



(A) $x = 5\sqrt{5}, y = 10\sqrt{5}$
(B) $x = 5\sqrt{5}, y = 20\sqrt{5}$
(C) $x = 5\sqrt{25}, y = 10\sqrt{5}$
(D) $x = 5\sqrt{25}, y = 20\sqrt{5}$
(E) $x = 5\sqrt{15}, y = 20\sqrt{5}$

2. In the diagram below, what is the measure of $\angle A$ to the nearest tenth of a degree?



(A) 41.8°
(B) 48.2°
(C) 33.7°
(D) 1°
(E) 42°

3. Which set of numbers can represent the side lengths of an obtuse triangle?

(A) 12, 16, 20
(B) 8, 14, 17
(C) 1, 2, 1
(D) 3, 4, 5
(E) 3.5, 3.5, 3.5

4. Points $A(5, 2)$ and $B(8, 7)$ are the initial and the terminal points of $\overrightarrow{AB}$. Find the magnitude of $\overrightarrow{AB}$.

(A) $\langle 3, 5\rangle$
(B) $\langle 3, 1\rangle$
(C) $2\sqrt{6}$
(D) $\langle 5, 3\rangle$
(E) $\sqrt{34}$

5. Let $\vec{v} = \langle -3, y\rangle$ and $\vec{w} = \langle x, 8\rangle$. If $\vec{v} + \vec{w} = \langle 1, 3\rangle$, what are the values of x and y?

(A) $x = -4$, $y = 11$
(B) $x = 4$, $y = 11$
(C) $x = -4$, $y = -5$
(D) $x = 4$, $y = -5$
(E) $x = -4$, $y = 5$

6. Let the numbers represent the lengths of the sides of a triangle. Which of the triangles are right triangles?

(A) 5, 8, 13
(B) 27, 36, 45
(C) 1, 2, 3
(D) 7.5, 8.5, 10.5
(E) 18, 24, 31

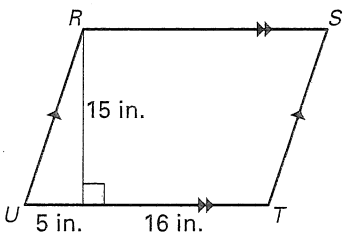
7. The length of a diagonal of a square is 20 inches. What is its perimeter?

(A) $40\sqrt{2}$ in.
(B) $20\sqrt{2}$ in.
(C) $30\sqrt{2}$ in.
(D) 20 in.
(E) $10\sqrt{2}$ in.

8. The base of an isosceles triangle is 21 centimeters long. The altitude to the base is 9 centimeters long. What is the approximate measure of a base angle of the triangle?

(A) 60°
(B) 49.4°
(C) 40.6°
(D) 31°
(E) 42°

9. Find the area of $\square RSTU$.



(A) 253 in.^{2}
(B) 332 in.^{2}
(C) 277.5 in.^{2}
(D) 240 in.^{2}
(E) 315 in.^{2}

10. Using the figure in Exercise 9, find the perimeter of $\square RSTU$.

(A) 72.5 in.
(B) 73.6 in.
(C) 72 in.
(D) 73 in.
(E) 71.8 in.