Unit 5 - Triangle Relationships Practice Test

Name: _____ **Date:** _____

1. Which of the following sets of numbers could represent the lengths of the sides of a triangle?

   A. 2, 2, 5 B. 3, 3, 5

   C. 4, 4, 8 D. 5, 5, 15

2. Eva has four sets of straws. The measurements of the straws are given below. Which set of straws could not be used to form a triangle?

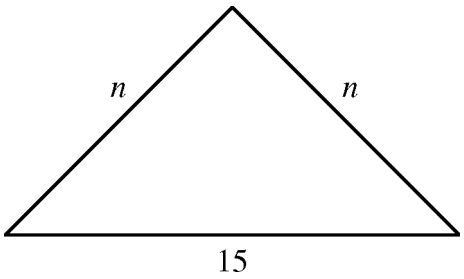
   A. Set 1: 4 cm, 4 cm, 7 cm

   B. Set 2: 2 cm, 3 cm, 8 cm

   C. Set 3: 3 cm, 4 cm, 5 cm

   D. Set 4: 5 cm, 12 cm, 13 cm

3. In the figure below, n is a whole number. What is the *smallest* possible value for n?



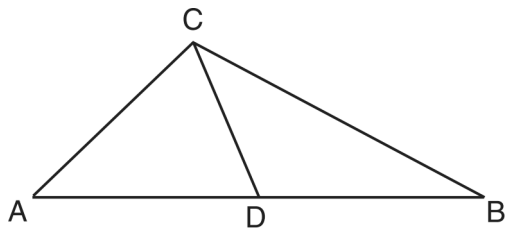
   A. 1 B. 7 C. 8 D. 14

4. The lengths of three sides of a triangle are 5, 9, and x, all measured in centimeters. What are all possible values of x?

   A. $4 < x < 14$ B. $0 < x < 14$

   C. $5 < x < 15$ D. $3 < x < 9$

5. As shown in the diagram below, $\overline{CD}$ is a median of $\triangle ABC$.



   Which statement is always true?

   A. $\overline{AD} \cong \overline{DB}$ B. $\overline{AC} \cong \overline{AD}$

   C. $\angle ACD \cong \angle CDB$ D. $\angle BCD \cong \angle ACD$

6. In $\triangle PQR$, $PQ = 8$, $QR = 12$, and $RP = 13$. Which statement about the angles of $\triangle PQR$ must be true?

   A. $m\angle Q > m\angle P > m\angle R$

   B. $m\angle Q > m\angle R > m\angle P$

   C. $m\angle R > m\angle P > m\angle Q$

   D. $m\angle P > m\angle R > m\angle Q$

7. In $\triangle ABC$, $\overline{AB} \cong \overline{BC}$. An altitude is drawn from B to $\overline{AC}$ and intersects $\overline{AC}$ at D. Which statement is *not* always true?

A. $\angle ABD \cong \angle CBD$ B. $\angle BDA \cong \angle BDC$

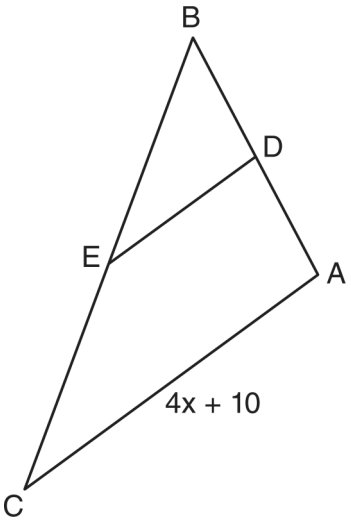
C. $\overline{AD} \cong \overline{BD}$ D. $\overline{AD} \cong \overline{DC}$

8. In $\triangle ABC$, $m\angle A = 95$, $m\angle B = 50$, and $m\angle C = 35$. Which expression correctly relates the lengths of the sides of this triangle?

A. $AB < BC < CA$ B. $AB < AC < BC$

C. $AC < BC < AB$ D. $BC < AC < AB$

9. In the diagram below of $\triangle ABC$, D is the midpoint of $\overline{AB}$, and E is the midpoint of $\overline{BC}$.



If $AC = 4x + 10$, which expression represents DE?

A. $x + 2.5$ B. $2x + 5$

C. $2x + 10$ D. $8x + 20$

10. The diagonal of a square television screen measures 27 inches. What is the *approximate* length of the screen?

A. 13 in. B. 15 in. C. 19 in. D. 21 in.

11. A 13-foot ladder leans against a building. The base of the ladder is 5 feet from the building. How high up the building is the top of the ladder?

A. 8 feet B. 10 feet C. 12 feet

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1.
Answer: B
Points: 1

2.
Answer: B
Objective: MA 8.G.-
Points: 1

3.
Answer: C
Points: 1

4.
Answer: A
Objective: MA 10.G.-
Points: 1

5.
Answer: A
Points: 1

6.
Answer: A
Points: 1

7.
Answer: C
Points: 1

8.
Answer: B
Points: 1

9.
Answer: B
Points: 1

10.
Answer: C
Points: 1

11.
Answer: C
Points: 1