

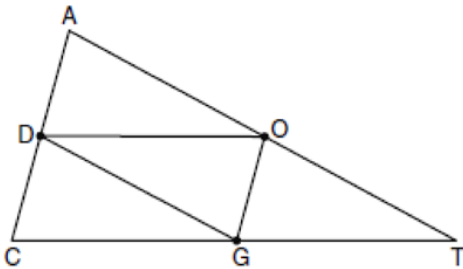
**GEOMETRY**

**Cumulative .Review #5 (UNITS 1 - 5)**

**PART I:** Write the answer of your choice in the space provided. Provide work that justifies your choice in the space provided. Each item is worth 2 points. A correct choice without appropriate justification will receive 1 point.

**Work Space for Justification**

- \_\_\_\_\_ 1. In the diagram below of  $\triangle ACT$ , D is the midpoint of  $\overline{AC}$ , O is the midpoint of  $\overline{AT}$ , and G is the midpoint of  $\overline{CT}$ .



If  $AC=10$ ,  $AT=18$ , and  $CT=22$ , what is the perimeter of parallelogram CDOG?

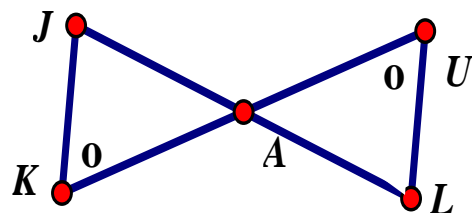
- [A] 21
- [B] 25
- [C] 32
- [D] 40

- \_\_\_\_\_ 2. For the coordinates  $M(-1,0)$ ,  $N(-2,2)$ ,  $P(10,y)$ , and  $Q(4,6)$ ,  $\overline{MN} \parallel \overline{PQ}$ . What is the value of  $y$ ?

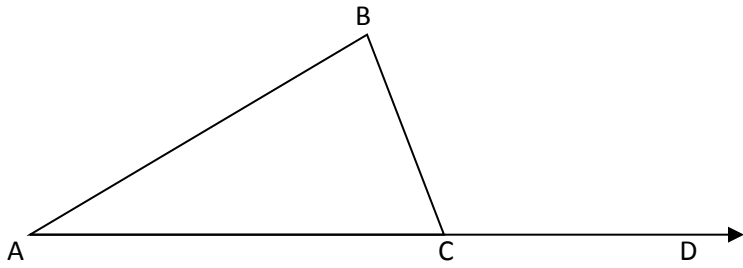
- [A] -18
- [B] -6
- [C] 6
- [D] 18

- \_\_\_\_\_ 3. Given  $\angle K \cong \angle U$ , which additional information would allow you to prove  $\triangle JKA \cong \triangle LUA$  by the ASA congruency criteria?

- [A]  $\angle J \cong \angle L$
- [B]  $\overline{JA}$  bisects  $\overline{KU}$
- [C]  $\overline{JK} \parallel \overline{LU}$
- [D]  $\overline{JK} \perp \overline{LJ}$  and  $\overline{LU} \perp \overline{LJ}$

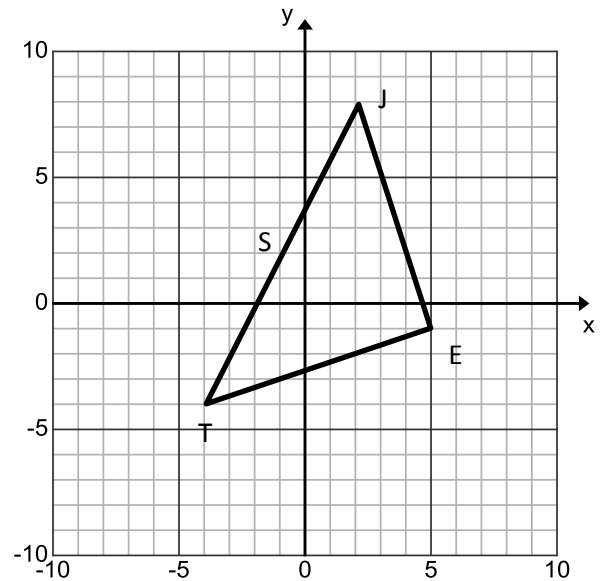


4. In the diagram below of  $\triangle ABC$  with side  $\overline{AC}$  extended through D,  $m\angle A = 22^\circ$  and  $m\angle BCD = 108^\circ$ . Which side of  $\triangle ABC$  is the longest side? Justify your answer. [Note: Picture is not drawn to scale]



5. **Given:**  $J(2,8)$ ,  $E(5,-1)$ ,  $T(-4,-4)$ ,  $S(-1,2)$

**Prove:** A)  $\overline{ES}$  is an altitude of  $\triangle JET$



B) Find the area of  $\triangle SET$