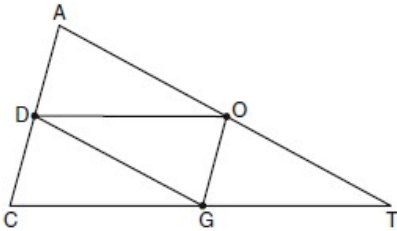


Name _____
Mr. Schlansky

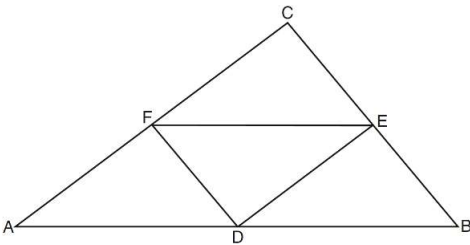
Date _____
Geometry

Joining Midpoints of a Triangle

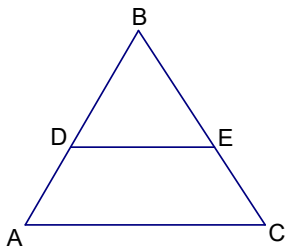
1. In the diagram below of $\triangle ACT$, D is the midpoint of \overline{AC} , O is the midpoint of \overline{AT} , and G is the midpoint of \overline{CT} . If $AC = 10$, $AT = 18$, and $CT = 22$, what is the perimeter of parallelogram $CDOG$?



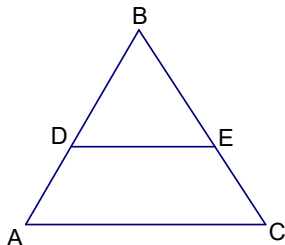
2. In the diagram of $\triangle ABC$ shown below, D is the midpoint of \overline{AB} , E is the midpoint of \overline{BC} , and F is the midpoint of \overline{AC} . If $AB = 20$, $BC = 12$, and $AC = 16$, what is the perimeter of trapezoid $ABEF$?



3. D and E are midpoints of \overline{AB} and \overline{BC} respectively. If $\overline{AC} = x + 15$ and $\overline{DE} = x - 3$, find the measure of \overline{DE} .

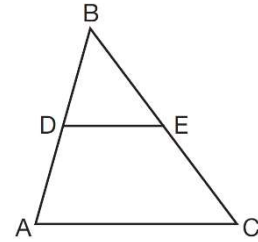


4. D and E are midpoints of \overline{AB} and \overline{BC} respectively. If $\overline{DE} = 2x + 11$ and $\overline{AC} = 7x - 1$, find the measure of \overline{AC} .



5. In $\triangle ABC$, D is the midpoint of \overline{AB} and E is the midpoint of \overline{BC} . If $AC = 3x - 15$ and $DE = 6$, what is the value of x ?

- 1) 6
- 2) 7
- 3) 9
- 4) 12



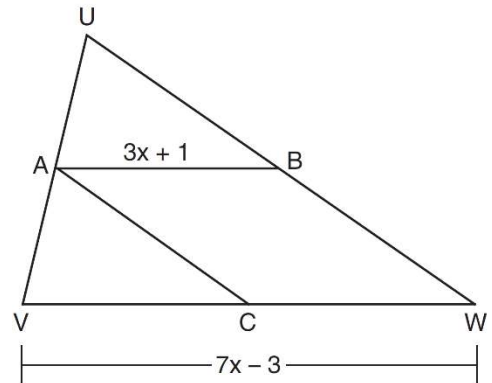
6. In $\triangle ABC$, M is the midpoint of \overline{AB} and N is the midpoint of \overline{AC} . If $MN = x + 13$ and $BC = 5x - 1$, what is the length of \overline{MN} ?

- 1) 3.5
- 2) 9
- 3) 16.5
- 4) 22

7. In the diagram of $\triangle UVW$ below, A is the midpoint of \overline{UV} , B is the midpoint of \overline{UW} , C is the midpoint of \overline{VW} , and \overline{AB} and \overline{AC} are drawn.

If $VW = 7x - 3$ and $AB = 3x + 1$, what is the length of \overline{VC} ?

- 1) 5
- 2) 13
- 3) 16
- 4) 32



8. In the diagram of equilateral triangle ABC shown below, E and F are the midpoints of \overline{AC} and \overline{BC} , respectively.

If $EF = 2x + 8$ and $AB = 7x - 2$, what is the perimeter of trapezoid $ABFE$?

