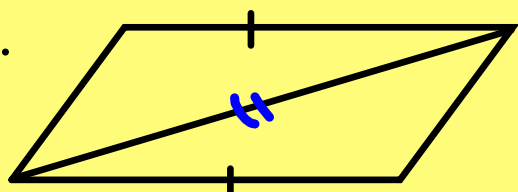


# 11/14/19 - Warm Up Problem

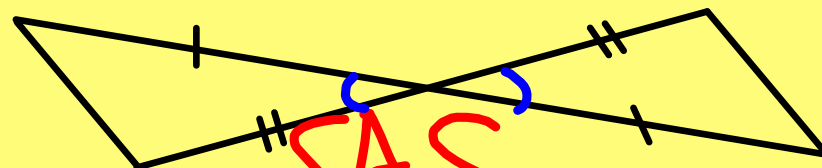
Is each pair of triangles congruent? If yes, name the postulate or theorem that proves it.

1.



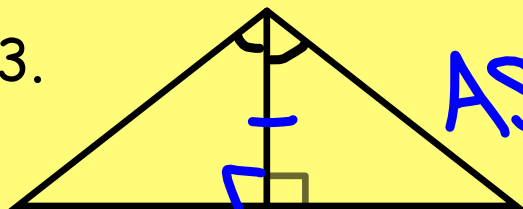
not possible

2.



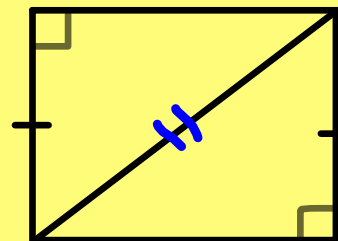
SAS

3.



ASA

4.



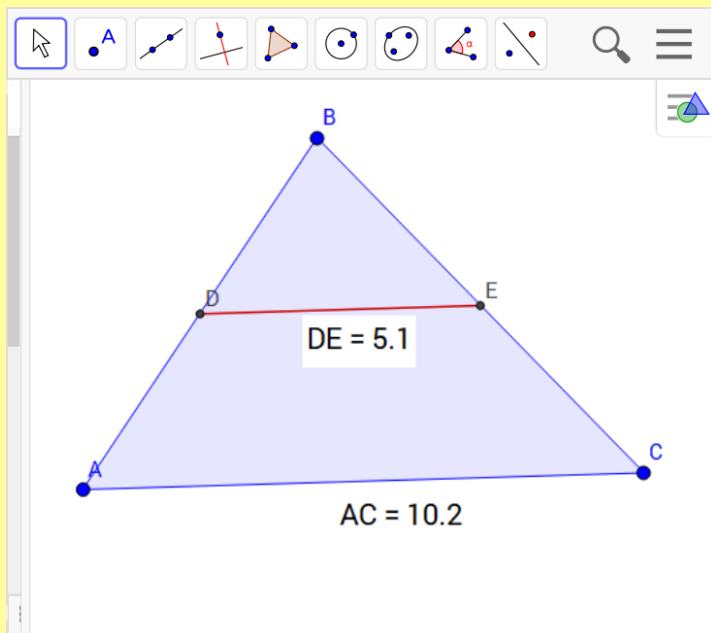
HL



# Section 5.1 - Midsegment Theorem

**Goal:** identify and use properties of midsegments

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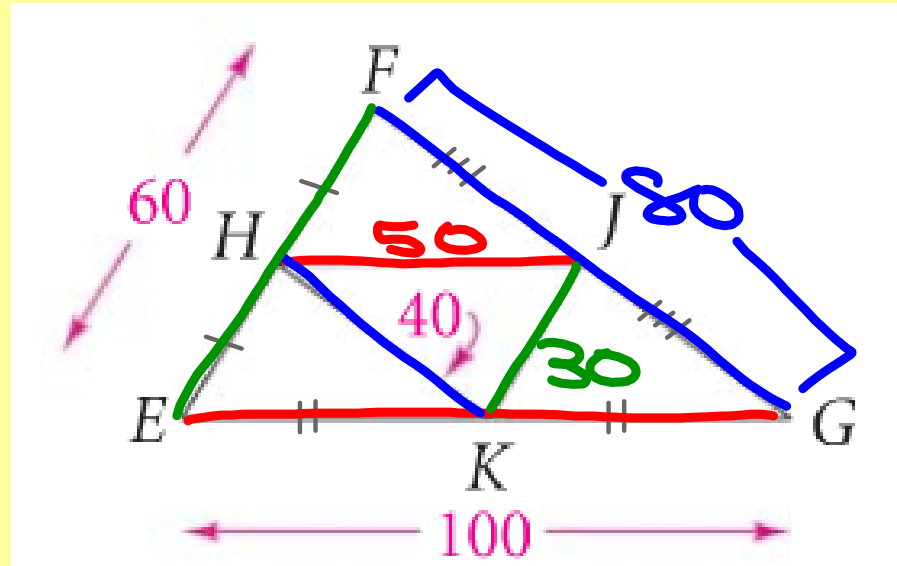
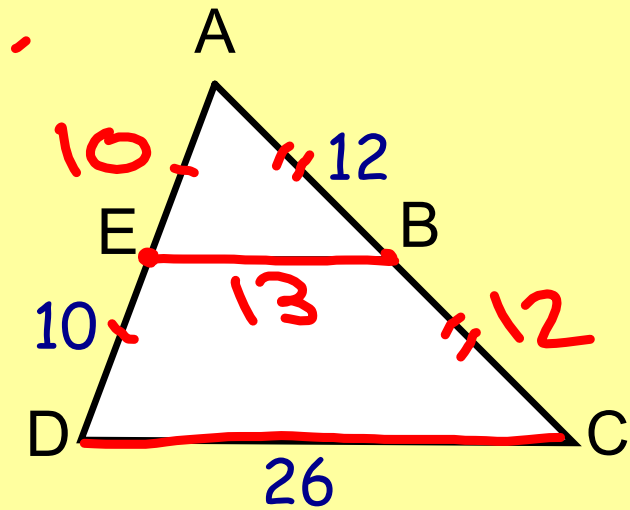


**Midsegment:** A segment that connects the midpoints of two sides of a triangle

## Midsegment Theorem

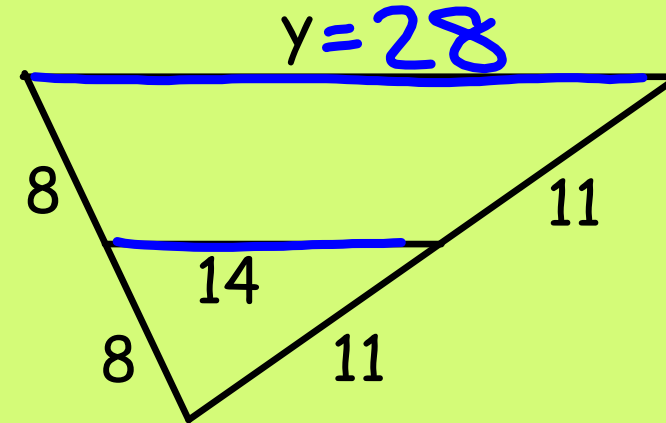
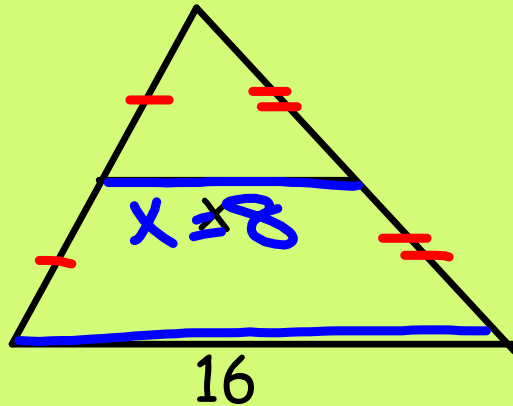
If a segment joins the midpoints of two sides of a triangle, then the segment is parallel to the third side and half its length.

Find the length of each side of the triangles and each midsegment.



## Using Midsegments

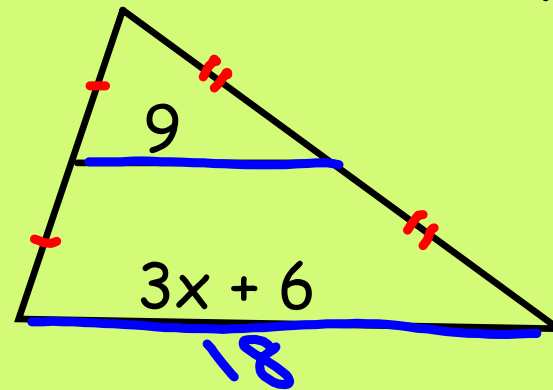
Find the value of the variable.



$$\begin{array}{r} 3x + 6 = 18 \\ -6 \quad -6 \\ \hline 3x = 12 \end{array}$$

$$\frac{3x}{3} = \frac{12}{3}$$

$$x = 4$$

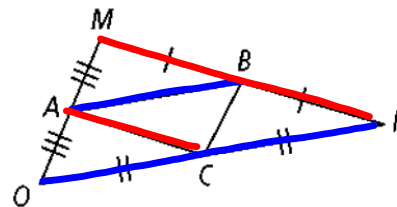


**Assignment:**  
**Concept 11 Worksheet (1-12)**  
 - due Friday 11/22

MIDSEGMENTS

Find 3 different pairs of parallel segments on the figure below.  
 Fill in the blanks with the names of the segments.

1.  $\overline{AB} \parallel \overline{ON}$
2.  $\overline{AC} \parallel \overline{MN}$
3. \_\_\_\_\_  $\parallel$  \_\_\_\_\_

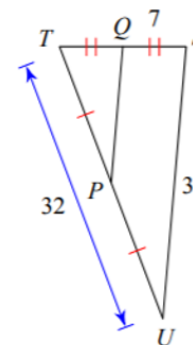
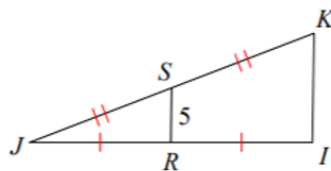
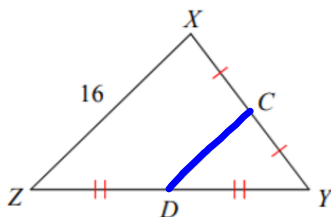


Find the length of the segment.

4.  $CD = 8$

5.  $KI = \underline{\hspace{2cm}}$

6.  $QP = \underline{\hspace{2cm}}$



Points  $M$ ,  $N$ , and  $P$  are the midpoints of the sides of  $\triangle QRS$ .  
 $QR = 30$ ,  $RS = 30$ , and  $SQ = 18$ .

- |                                    |                                     |
|------------------------------------|-------------------------------------|
| 7. $MN = 9$                        | 10. $MQ = \underline{\hspace{2cm}}$ |
| 8. $MP = \underline{\hspace{2cm}}$ | 11. $PS = \underline{\hspace{2cm}}$ |
| 9. $PN = \underline{\hspace{2cm}}$ | 12. $RN = \underline{\hspace{2cm}}$ |

