## LEVEL: EMERGING

Directions: In each triangle, M, N, and P are midpoints of the sides. Name the line segment that is parallel to the one that is given.

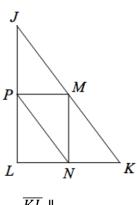
1)

 $\overline{NP} \parallel$ 

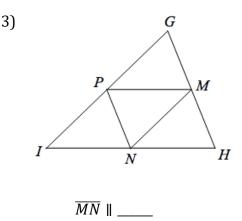
have lengths of 22, 26, and 30. Which of the

following could be the length of a side of this

4) The lengths of the midsegments of a triangle



 $\overline{KL} \parallel$ 



5) The sides of a triangle have lengths of 56, 102, and 86. Which of the following could be the length of a midsegment of this triangle? Select all that

- triangle? Select all that apply.
  - (A) 11
    - (B) 15 (C) 44
- (D) 50

2)

- (E) 60

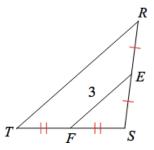
apply.

- (A) 38 (B) 43 (C) 48 (D) 51
  - (E) 57

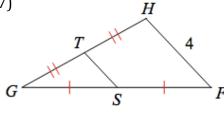
LEVEL: PROFICIENT

Directions: Find the length of the indicated line segment.

6)

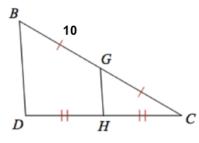


7)



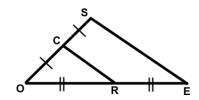
$$TS =$$

8)



GC =

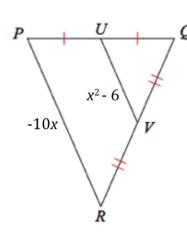
Given: ,  $\overline{OC} \cong \overline{CS}$ ,  $\overline{OR} \cong \overline{RE}$ 9) Prove:  $\overline{CR}$  is a midsegment



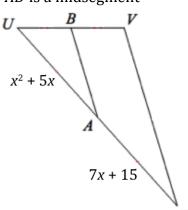
Statements	Reasons
(1)	(1)
(2)	(2)
(3)	(3)
(4)	(4)

Directions: Find the value of *x*. Then find the length of the indicated segment.

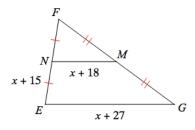
10)



 $\overline{AB}$  is a midsegment



12)



x =

$$UA = \underline{\hspace{1cm}} AT = \underline{\hspace{1cm}}$$

$$NM =$$
\_\_\_\_\_ $FN =$ \_\_\_\_\_

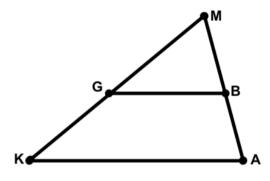
 $UV = \underline{\hspace{1cm}}$ 

SUM of UA and AT =

SUM of NM and FN =

13) Complete the following proportions.

Given: B and G are midpoints of  $\overline{MA}$  and  $\overline{MK}$ , GB = 6, BA = 4, KG = 10



(A) 
$$\frac{KA}{GB} = ---$$

(B) 
$$\frac{BA}{MA} =$$

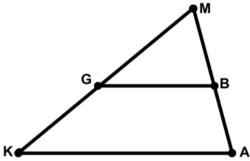
(C) 
$$\frac{MA}{MK} =$$

(D) 
$$\frac{GB}{KA} =$$

(E) 
$$\frac{MG}{MK} =$$

(F) 
$$\frac{KG}{GM} =$$

14) Select all of the statements that must be correct.



(A) 
$$\frac{KG}{GM} = \frac{AB}{BM}$$

(B) 
$$\frac{KA}{GB} = \frac{AB}{BM}$$

(C) 
$$\frac{MB}{MA} = \frac{GB}{KA}$$

(D) 
$$\frac{MK}{MG} = \frac{MA}{MB}$$

(E) Cannot be determined