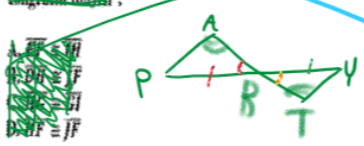
57. In this diagram, $\overline{DE} \cong \overline{JI}$ and $\angle D \cong \angle J$. Which additional information is sufficient to prove that $\triangle DEF$ is congruent to $\triangle JIH$?



Given: $\angle A \cong \angle T$ and $\overline{YR} \cong \overline{PR}$

Prove: $\triangle PAR \cong \triangle YTR$

S	R
$\angle A \cong \angle T$	Given
$\cong$	Given
$\angle PRA \cong \angle YRT$	vertical $\angle$s $\cong$
$\triangle PAR \cong \triangle IT$	SAS

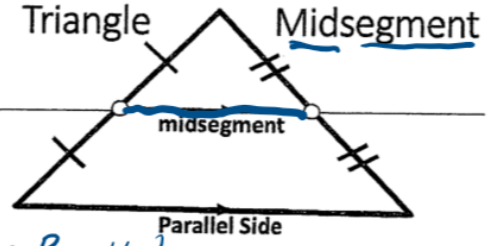
1

Triangle Midsegment Theorem

What do you think it is?

2

Triangle Midsegment



1. Parallel to one side of the triangle
2. Is 1/2 the length of the parallel side
3. Connects the midpoints

3

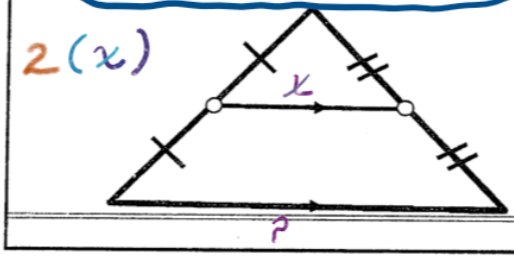
Triangle Midsegment Theorem

EQUATION

$MIDSEGMENT = \frac{1}{2} Parallel\ Side$

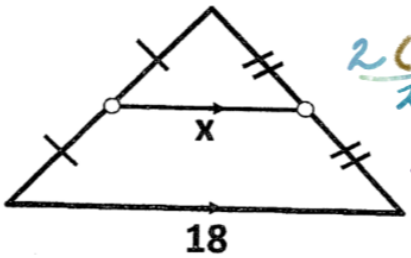
or

$2(MIDSEGMENT) = Parallel\ Side$



4

1. Solve for x.

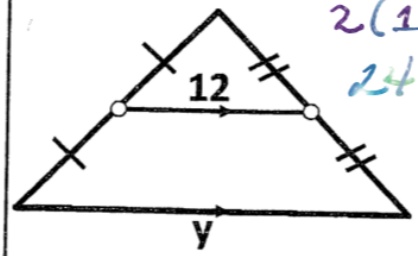


$\frac{2(x)}{2} = \frac{18}{2}$

$x = 9$

5

2. Solve for y.

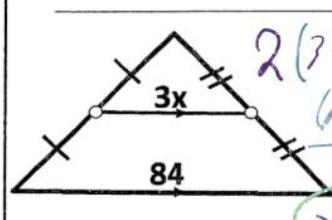


$2(12) = y$

$24 = y$

6

3. Solve for x.



$2(3x) = 84$

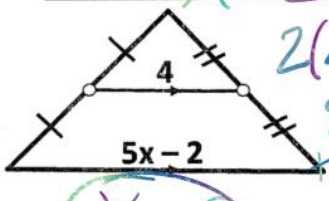
$\frac{6x}{6} = \frac{84}{6}$

$x = 14$

7

4. Solve for x.

$x = 2$



$2(4) = 5x - 2$

$8 = 5x - 2$

$+2 \quad +2$

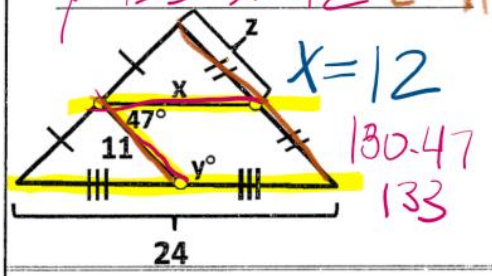
$10 = 5x$

$x = 2$

8

5. Solve for the missing variables.

$y = 133 \quad x = 12 \quad z = 11$



$x = 12$

$180 - 47$

133

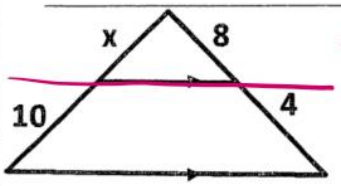
9 practice pg 16

Proportional Parts of Triangles

BE CONSISTENT WITH HOW YOU SET UP THE _____.

10

1. Solve for x.

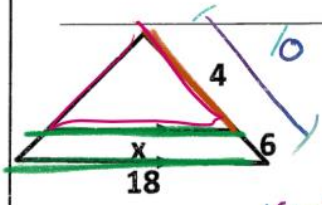


$\frac{x}{10} = \frac{8}{4}$

$x = 20$

11

2. Solve for x.

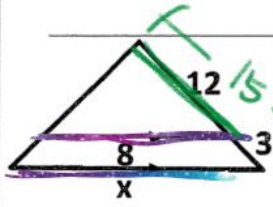


$\frac{x}{18} = \frac{4}{10}$

$x = 7.2$

12

3. Solve for x. Try

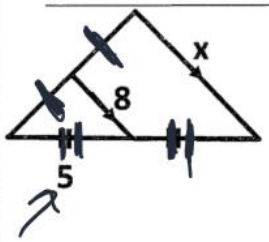


$\frac{8}{x} = \frac{12}{15}$

$X = 10$

13

Determine if a midsegment or proportionality problem and solve.

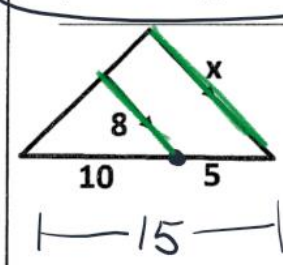


$2(8) = x$

$16 = x$

14

Determine if a midsegment or proportionality problem and solve.



$\frac{x}{8} = \frac{15}{10}$

$X = 12$

15 practice pg 17-18

GeomeTRY

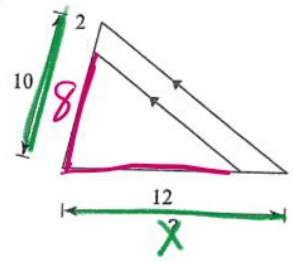
Name_____

Midsegment and Proportionality Review

Date_____ Period____

Find the missing length indicated.

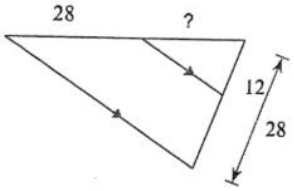
1)



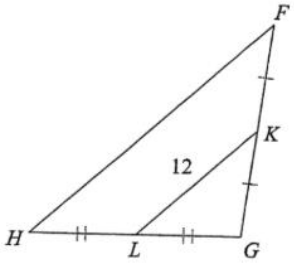
$\frac{X}{12} = \frac{10}{8}$

$X = 15$

2)



3) Find *FH*



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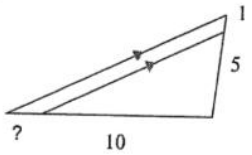
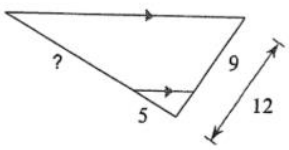
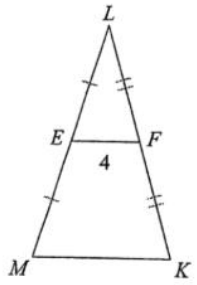


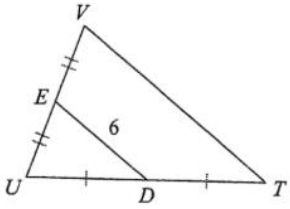
5)



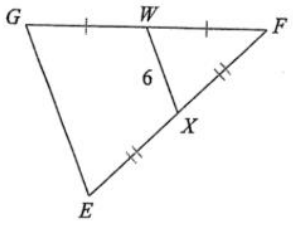
6) Find *MK*



7) Find *TV*

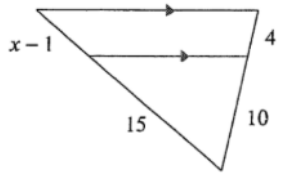


8) Find *GE*



Solve for x.

9)



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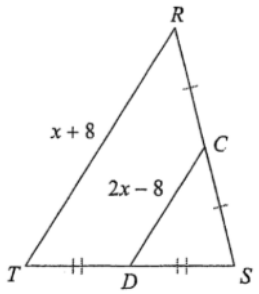

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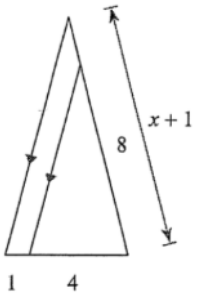

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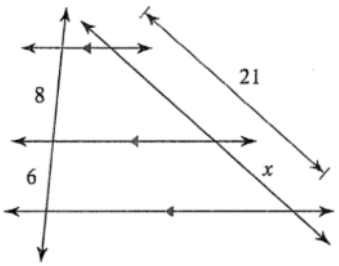
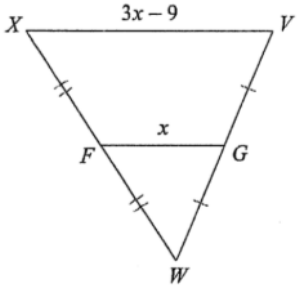


13)



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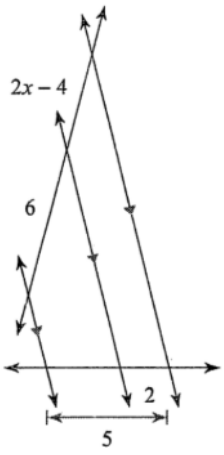

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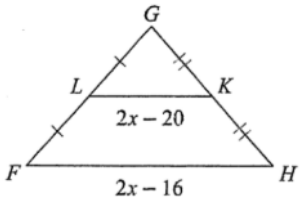

16)