

Date: _____

Mid Segment of a Triangle

A mid segment of a triangle is a segment that connects the _____ sides of a triangle.

A mid segment of a triangle is _____ to one side

A mid segment of a triangle is _____ the length of the _____

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

2C - Similarity

Anderson Date: 11.13.11

Mid Segment of a Triangle

A mid segment of a triangle is a segment that connects the midpoints sides of a triangle.

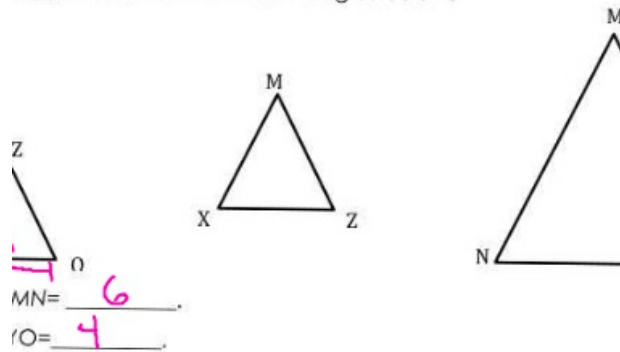
A mid segment of a triangle is parallel to one side of the triangle.

A mid segment of a triangle is half the length of the parallel side.

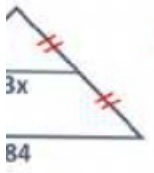
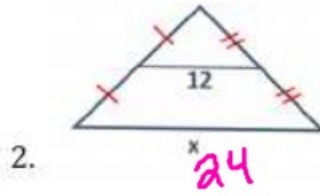
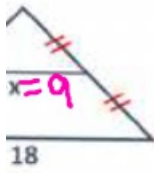
$$\text{MIDSEGMENT} = \frac{\text{Parallel Side}}{2}$$

A mid segment of a triangle divides the larger triangle into two congruent sides.

Ans Let's look at the three triangles below.



Through this relationship we can know on all three triangles from the information given. What does this remind you of? Dilation

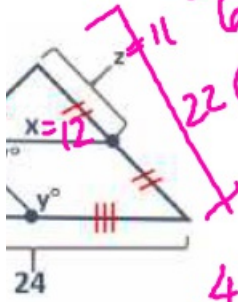
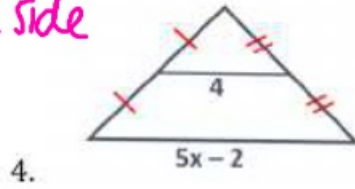


$2(\text{midseg}) = \text{parallel side}$

$$2(3x) = 84$$

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

$$x = 14$$



$$\begin{array}{r} 47 + y = 180 \\ -47 \quad -47 \\ \hline \end{array}$$

$$z = 11$$

$$y = 133$$

Triangle Proportionality

! MUST BE CONSISTENT WITH HOW YOU SET UP YOUR PROPORTIONS (big/small or new/old)

$$\frac{\text{big}}{\text{small}} \text{ or } \frac{\text{new}}{\text{old}}$$

each of the following, solve for x.



$$\frac{18}{6} = \frac{x+4}{4}$$

$$\begin{array}{r} 6x + 24 = 72 \\ -24 \quad -24 \\ \hline \end{array}$$

$$\frac{6x}{6} = \frac{48}{6}$$

$$x = 8$$

