What are the <u>three</u> ways you can prove two triangles are similar?

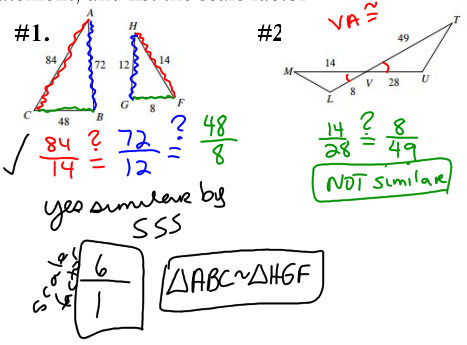
SSS
SAS
AA

Nov 19-4:59 PM

Proportions & Similarity

<u>WARM UP</u>

Decide if the triangles are similar. If so, tell how you know they are similar and write a similarity statement, and list the scale factor



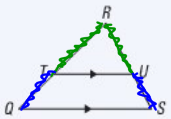
Jan 4-4:13 PM

Proportions & Similarity

THEOREM 7.4

Triangle Proportionality Theorem

Words If a line parallel to one side of a triangle intersects the other two sides, then it divides the two sides proportionally.



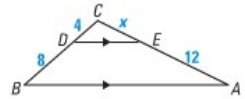
Symbols In △QRS, if $\overline{TU} \parallel \overline{QS}$, then $\frac{RT}{TQ} = \frac{RU}{US}$.

2/7

Jan 4-4:13 PM

Proportions & Similarity

Find the value of x.



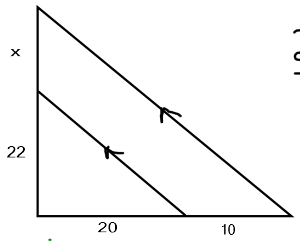
$\frac{4}{8} = \frac{x}{12}$

$8x = 4 \cdot 12$

$\frac{8x}{8} = \frac{48}{8}$ $x = 6$

Jan 4-4:13 PM

Proportions & Similarity



$\frac{22}{x} = \frac{20}{10}$

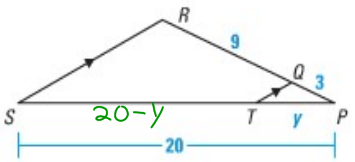
$\frac{20x}{20} = \frac{220}{20}$

$x = 11$

Jan 4-4:13 PM

Proportions & Similarity

Find the value of y.



$\frac{3}{9} = \frac{y}{(20-y)}$

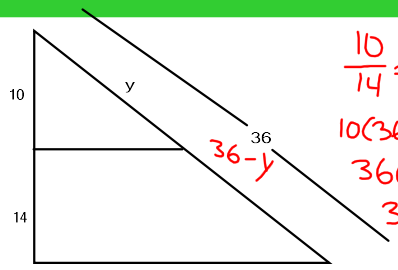
$9y = 60 - 3y$

$+3y \quad +3y$

$12y = 60$ $y = 5$

Jan 4-4:13 PM

Proportions & Similarity



$\frac{10}{14} = \frac{y}{36-y}$

$10(36-y) = 14y$

$360 - 10y = 14y$

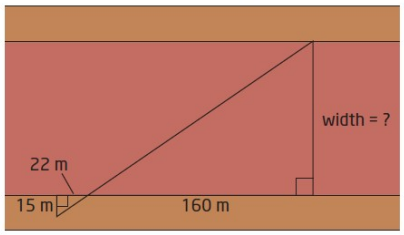
$360 = 24y$

$15 = y$

Jan 4-4:13 PM

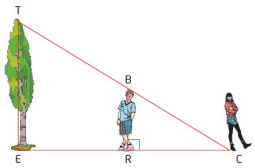
Let's apply by using word problems

Find the width of the canyon.



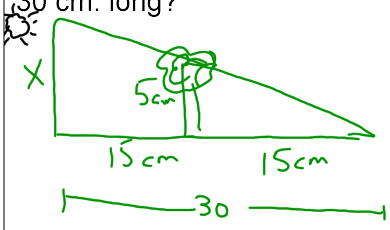
Nov 24-9:49 PM

To measure the height of a tree, Cynthia has her little brother, BR, stand so that the tip of his shadow coincides with the tip of the tree's shadow, a point C. Cynthia's brother, who is 2 m tall, is 4 m from Cynthia, who is standing at C, and 6 m from the base the tree. Find the height of the tree, TE.



Nov 12-1:22 PM

A tree with a height of 5 cm casts a shadow 15cm long on the ground. How high is another tree that casts a shadow which is 30 cm. long?



$\frac{5}{15} = \frac{x}{30}$

$150 = 15x$

$x = 10$

Nov 12-1:23 PM

CONVERSIONS:

Min ⟷ Sec

Hr ⟷ Min

m ⟷ cm

kg ⟷ g

wks ⟷ days

Feb 2-6:56 PM

Before Reducing Ratios, they must be in the same units of measurements!!!!!

Change larger unit into small unit by multiplying!

ex. 2 min = ____ sec

10 ft = ____ in

3 wks = ____ days

Feb 2-6:56 PM

Feb 2-6:56 PM

Simplify the ratio.

60 cm : 200 cm

3 ft : 18 in

Feb 2-6:56 PM

Simplify the following ratios:

1) $\frac{15 \text{ cm}}{2 \text{ m}}$

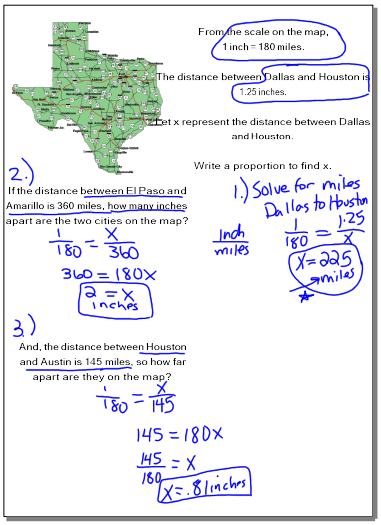
2) $\frac{5 \text{ ft.}}{25 \text{ in.}}$

Convert the larger unit into the smaller units by multiplying!

1 m = _____ cm 1 ft. = _____ in. 1 yd = ____ft.

1 wk = ____ days 1 km = _____m

Feb 2-6:56 PM



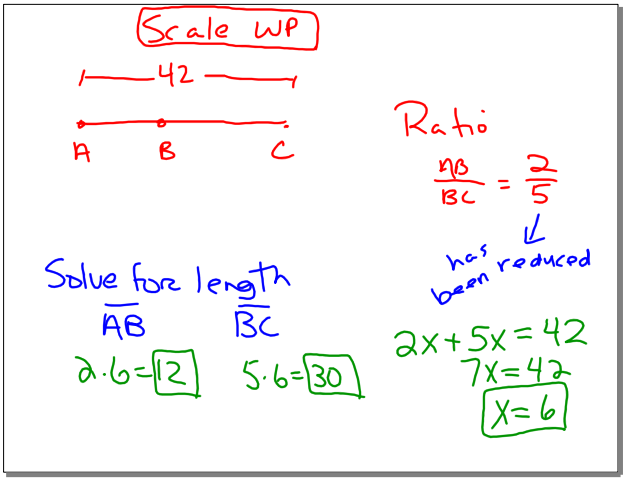
Feb 2-6:57 PM

A backpacker in the Rocky Mountains hikes 5.5 miles in 2 hours. If he continues hiking at the same constant rate, how far will he have hiked in 7 hours? Write and solve a proportion to find the answer.

Feb 2-6:58 PM

Haley was organizing her closet and realized that she has 8 shirts for every 5 pairs of jeans. If Haley has 40 shirts, then how many pairs of jeans does she have?

Feb 2-6:58 PM


Scale WP
42
A
B
C
Ratio
AB/BC = 2/5
has been reduced
Solve for length
AB
BC
2·6=12
5·6=30
2x+5x=42
7x=42
x=6

Feb 6-9:12 AM