

1428

Daily Learning Target WARMUP Name: _____

Find if the triangles are similar. If similar write a similarity statement and give the scale factor.

1. (1st) \angle 's \cong AND (2nd) Sides Proportional

(1st) \angle 's \cong ✓ NOT Similar
 (2nd) $\frac{15}{5} \stackrel{?}{=} \frac{10}{5} \stackrel{?}{=} \frac{20}{10}$
 $\frac{15}{5} = 3$, $\frac{10}{5} = 2$, $\frac{20}{10} = 2$
 (1st) don't know if ALL \angle 's are \cong NEI

3. Define Similarity:
 if \angle 's are \cong and sides are proportional in a polygon

4. Solve for x:

 $\frac{5}{x} = \frac{2}{1}$
 $5 = 2x$
 $\frac{5}{2} = x$

Nov 12-9:51 AM

SOLVING FOR X & Y
 When you are given two triangles and told they are similar - you can solve for unknown lengths

Proportions / Scale Factor

left right

$\frac{10}{5} = \frac{x}{8}$
 $80 = 5x$
 $16 = x$

$\frac{10}{5} = \frac{20}{y}$
 $10y = 100$
 $y = 10$

Nov 9-8:55 AM

Find the length of x and y in these similar triangles...

$\frac{9}{6} = \frac{6}{y}$
 $9y = 36$
 $y = 4$

$\frac{9}{6} = \frac{x}{8}$
 $72 = 6x$
 $12 = x$

Nov 9-8:56 AM

Example:
 In the diagram, $AB:DE = AC:DF$. Solve for x.

$\frac{12}{9} = \frac{8}{x}$
 $12x = 72$
 $x = 6$

Nov 9-9:01 AM

Find m < F 80°

Find x $\frac{12}{18} = \frac{x}{9}$

Find y $\frac{12}{18} = \frac{10}{y}$

Ratio of the perimeters is simply the scale factor. What is the scale factor?

$108 = 18x$
 $6 = x$

left right

reduce ratio of 2 sides

$\frac{12}{18} = \frac{6 \cdot 2}{6 \cdot 3} = \frac{2}{3}$

$12y = 180$
 $y = 15$

$\frac{2}{3}$ OR $.67$

Nov 12-9:54 AM

3 Ways to Prove Triangles Similar

Nov 9-10:23 AM

Angle - Angle (AA) Similarity Postulate

If two angles of one triangle are congruent to two angles of another triangle, then the two triangles are similar.

$\triangle JKL \sim \triangle XYZ$
 Similarity Statement

$\angle K \cong \angle Y$
 $\angle J \cong \angle X$

Nov 9-9:53 AM

Are these triangles SIMILAR? IF they are, write a similarity statement.

$\triangle GHF \sim \triangle AZY$

Match up Corresponding \angle 's

Jan 9-8:44 AM

Are these triangles SIMILAR? IF they are, write a similarity statement. *Hint:sneaky

Solve for 3rd angle
 \triangle sum to 180

$\triangle ZAY \sim \triangle GHF$
 $\angle Y = 22^\circ$

Jan 9-8:45 AM

Explain why $\triangle WVX \sim \triangle WZY$.

Similar by AA
 $\angle W \cong \angle W$
 $\angle Z = \angle V$

Nov 9-10:17 AM

Side-Side-Side (SSS) Similarity Theorem

If the corresponding side lengths of two triangles are proportional, then the triangles are similar.

If $\frac{AB}{PQ} = \frac{BC}{QR} = \frac{CA}{RP}$,
 then $\triangle ABC \sim \triangle PQR$.

Nov 9-10:17 AM

Explain how you would prove the two triangles similar.

?
 $\frac{20}{5} = \frac{8}{2} = \frac{24}{6}$
 Yes similar by SSS...
 $\triangle BCD \sim \triangle LMN$
 Similarity St
 Scale factor $\frac{4}{1}$
 option to redraw

Nov 9-10:18 AM

Side-Angle-Side (SAS) Similarity Theorem

If an angle of one triangle is congruent to an angle of a second triangle and the length of the sides including these angles are proportional, then the triangles are similar.

If $\angle X \cong \angle M$ and $\frac{ZX}{PM} = \frac{XY}{MN}$, then $\triangle XYZ \sim \triangle MNP$.

Nov 9-10:18 AM

Explain how you would prove the two triangles similar.

Remember:
You can add Vertical Angles

$\frac{16}{8} = \frac{12}{6}$ (Yes)
Scale Factor $\frac{2}{1}$
 $\triangle KLM \sim \triangle PNM$

Nov 9-10:18 AM

SOLVE FOR X Why can/cant you?

Jan 9-8:45 AM

These triangles are SIMILAR! SOLVE FOR X

Jan 9-8:45 AM

Find the ratio of the triangles' perimeters.

$\overline{ED} \parallel \overline{AB}$

The ratio of the sides is the same as the ratio of the perimeters.

$\frac{10}{6} = \frac{5}{3}$

$\triangle ABC \sim \triangle DEC$

You can add corresponding only if the lines \parallel

Nov 9-10:19 AM

These triangles are SIMILAR! SOLVE FOR X

Jan 9-8:45 AM

These triangles are SIMILAR! SOLVE FOR X

Jan 9-8:45 AM

Special types of triangles... TRICKY

Overlapping triangles - you can use AA to show similarity - Separate the triangles...

Determine if the triangles are similar... If they are write a similarity statement

Jan 11-2:07 PM

Opposite Angles in two triangles

Determine if the triangles are similar... If they are write a similarity statement

You can add Vertical \angle 's \cong

$\angle 1 \cong \angle 2$

Jan 11-2:07 PM

Challenge Plus

top
bottom

$$\frac{10}{25} = \frac{14}{x}$$

$$10x = 350$$

$$x = 35$$

Jan 11-10:32 AM

<https://play.kahoot.it/#/lobby?quizId=50da7f57-b5eb-4559-bf6f-f70b6823dd3a>

Nov 14-2:39 PM

HW: Practice worksheets

Jan 12-9:20 AM



Nov 14-12:28 PM