

1-31-19 & 2-1-19

Aim: SWBAT use the properties of similar triangles to find the missing lengths of similar figures.

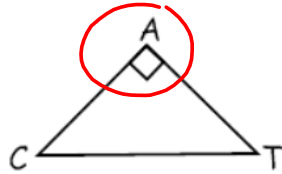
HW: Packet Pages 13 -14

Quiz Thursday or Friday next week

Do Now: Packet Page 10

**Aim:** SWBAT use the properties of similar triangles to find missing lengths of similar figures.

**Do Now:** Use the given triangle to answer the following questions.

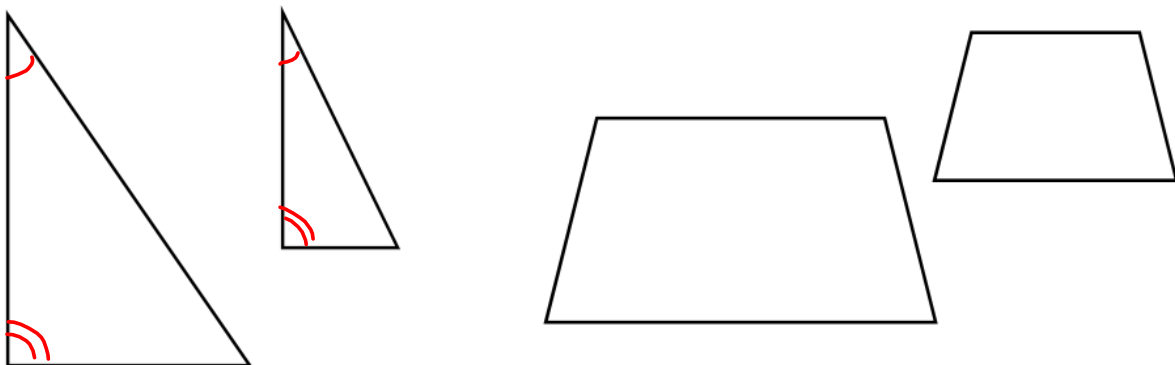


- 1) A triangle is named with three letters, name this triangle.  $\triangle ACT$
- 2) Line segments make up the sides of a triangle, line segments are named with two points.  
Name the three line segments in this triangle.  $\overline{AC}, \overline{AT}, \overline{CT}$
- 3) Angles are formed where two line segments meet. Name the three angles in this triangle.  
 $\angle A, \angle C, \angle T$
- 4) What type of triangle is this? (Acute, obtuse or right) right

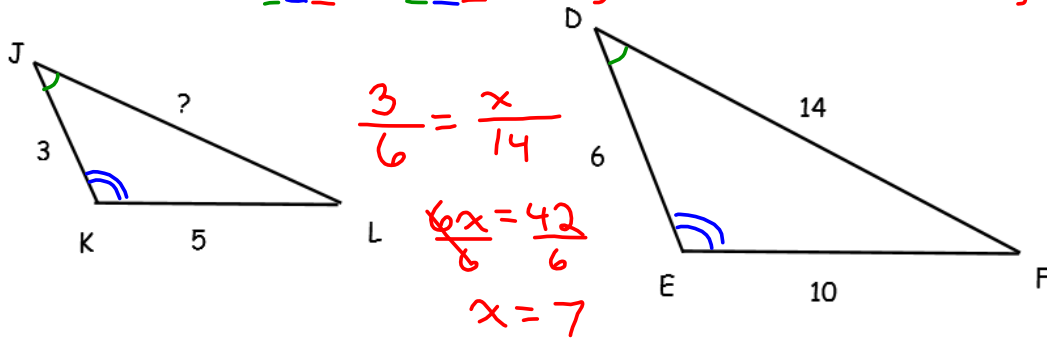
### SIMILAR FIGURES ~

- Have the same shape but different sizes
- Corresponding angles are  $\cong$  (congruent)
- Corresponding sides are proportional.

### Examples of Similar Figures



**Example A:** Given:  $\triangle JKL \sim \triangle DEF$  "Triangle JKL is similar to Triangle DEF."



1) List the corresponding angles.

$\angle J$  and  $\angle D$        $\angle K$  and  $\angle E$        $\angle L$  and  $\angle F$

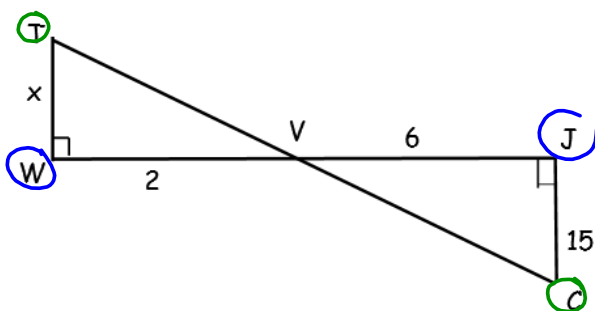
2) List the corresponding sides.

$\overline{JK}$  and  $\overline{DE}$        $\overline{JL}$  and  $\overline{DF}$        $\overline{KL}$  and  $\overline{EF}$

3) Solve for the missing side of  $\triangle JKL$  using a proportion.

**Example B:** Given:  $\triangle TWV \sim \triangle CJV$

Solve for x using a proportion.



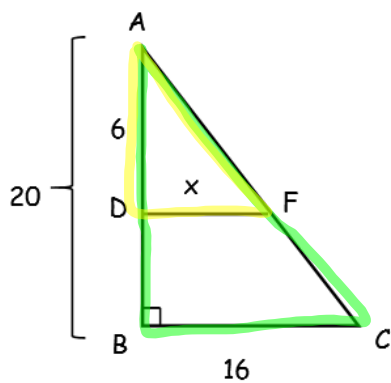
$$\frac{x}{15} = \frac{2}{6}$$

$$\frac{6x}{6} = \frac{30}{6}$$

$$x = 5$$

**Example C:** Given:  $\triangle ADF \sim \triangle ABC$

Solve for  $x$  using a proportion.



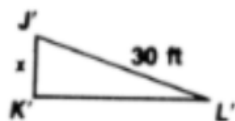
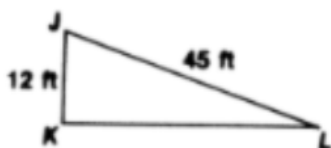
$$\frac{6}{20} = \frac{x}{16}$$

$$\frac{20x}{20} = \frac{96}{20}$$

$$x = 4.8$$

**Extra Practice:**

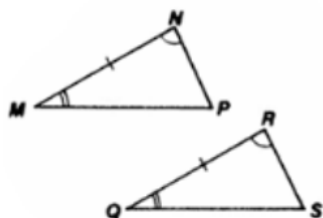
1) Solve for  $x$  algebraically.



**HOMEWORK**

List ALL corresponding parts.

1)



**Corresponding Sides**

---



---



---

**Corresponding Angles**

---

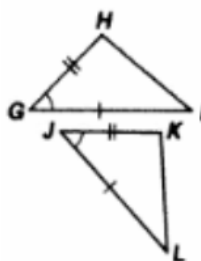


---



---

2)



**Corresponding Sides**

---



---



---

**Corresponding Angles**

---



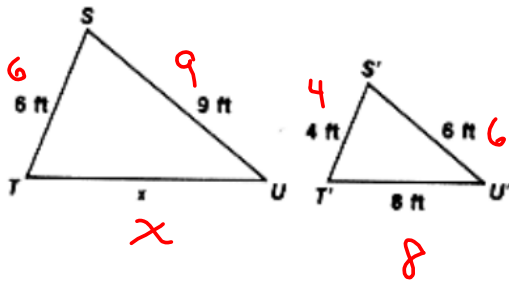
---



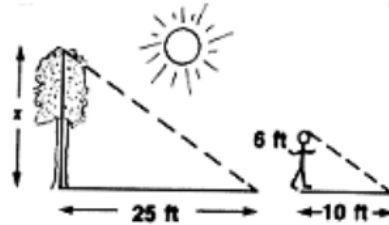
---

Each of the following pairs of triangles is similar. Find the missing side(s) algebraically using a proportion.

3) Solve for  $x$

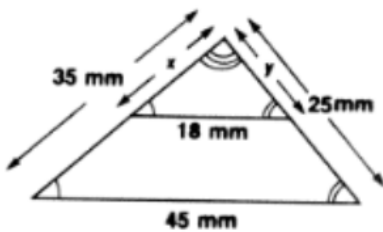


4) Solve for  $x$



For #'s 5 and 6 you will need to write two proportions. (Use a proportion to solve for  $x$  first, then write another proportion to solve for  $y$ .)

5) Solve for  $x$  and  $y$



6) Solve for  $x$  and  $y$

