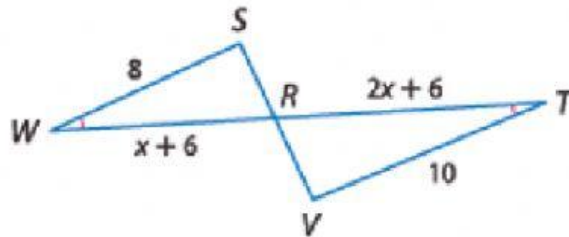


# WORKSHEET LESSON 6-3 PARTS OF SIMILAR TRIANGLES

1) Prove that  $\triangle WRS \sim \triangle TRV$ . Then find WR and RT



| Statement                          | Reason                 |
|------------------------------------|------------------------|
| $\angle W \cong \angle T$          | given                  |
| $\angle WRS \cong \angle TRV$      | Vertical angle theorem |
| $\triangle WRS \sim \triangle TRV$ | similarity             |

Since triangles are similar, its sides are proportional

$$\frac{WR}{TV} = \frac{WS}{TR}$$

$$\frac{WR}{2x+6} = \frac{8}{10}$$

$$(x+6) 10 = (2x+6) 8$$

$$10x + 60 = 16x + 48$$

$$\frac{-10x}{-10x} \quad \frac{-10x}{-10x}$$

$$60 = 6x + 48$$

|     |      |    |
|-----|------|----|
| 48  | AA   | WS |
| TRV | 10   | T  |
| TR  | x+6  | 8  |
| 60  | 2x+6 | 6x |

$$12 = 6x \quad (\text{Subtract 48 on both sides})$$

$$\frac{12}{6} = \frac{6x}{6}$$

10

2

8

6

$$X =$$

Find the side lengths using the value of x

$$WR = x + 6$$

=

$$TR = 2x + 6$$

=