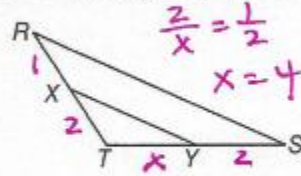


Proportional Parts of Triangles

- In any triangle, a line parallel to one side of a triangle separates the other two sides proportionally.



- The converse is also true.

If $\overline{XY} \parallel \overline{RS}$, then $\frac{RX}{XT} = \frac{SY}{YT}$. If $\frac{RX}{XT} = \frac{SY}{YT}$, then $\overline{XY} \parallel \overline{RS}$.

$$\frac{\text{Part}}{\text{Part}} = \frac{\text{Part}}{\text{Part}} \text{ OR } \frac{\text{Part}}{\text{Whole}} = \frac{\text{Part}}{\text{Whole}}$$

CLASSWORK Proportional Parts Practice:

1.
$$\frac{5}{7} = \frac{5}{x}$$

$$5x = 35$$

$$x = 7$$

2.
$$\frac{20}{18} = \frac{x}{9}$$

$$18x = 180$$

$$x = 10$$

3.
$$\frac{x}{6} = \frac{35}{15}$$

$$15x = 210$$

$$x = 14$$

page 20

4.
$$\frac{x}{10} = \frac{24}{30}$$

$$30x = 240$$

$$x = 8$$

5.
$$\frac{x}{11} = \frac{x+12}{22}$$

$$22x = 11(x+12)$$

$$22x = 11x + 132$$

$$-11x = 132$$

$$x = 12$$

6.
$$\frac{x}{10} = \frac{x+10}{30}$$

$$30x = 10(x+10)$$

$$30x = 10x + 100$$

$$20x = 100$$

$$x = 5$$

7.
$$\frac{y}{5} = \frac{y+2}{8}$$

$$8y = 5(y+2)$$

$$8y = 5y + 10$$

$$3y = 10$$

$$y = 3.3$$

8.
$$\frac{x+12}{5} = \frac{3}{12}$$

$$3(x+12) = 5(12)$$

$$3x + 36 = 60$$

$$3x = 24$$

$$x = 8$$