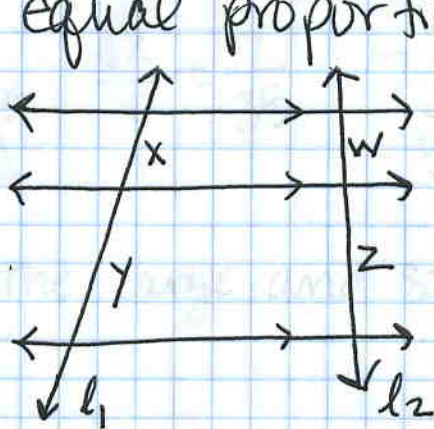


## 11.7 Parallel Lines Ratios

### Parallel Lines Conjecture

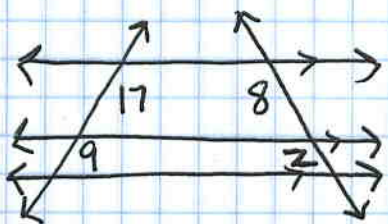
Parallel lines intercepting line segments, will cut those segments into equal proportions



$$\frac{x}{y} = \frac{w}{z}$$

← top seg.  
← bottom segments

Find z



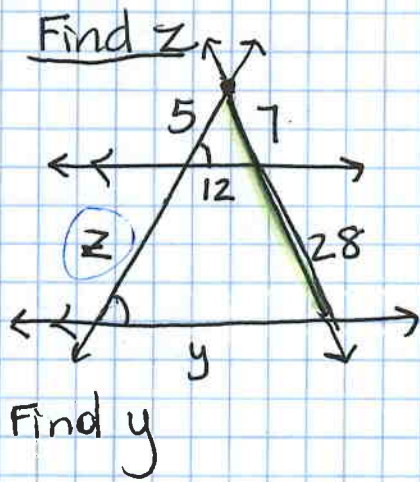
set up proportions

$$\frac{17}{9} = \frac{8}{z}$$

← Tops  
← bottoms

$$17z = 72$$

$$\boxed{z = 4.235}$$

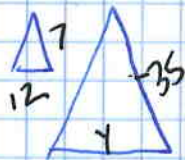


$$\frac{l_1}{l_2} = \frac{d_1}{d_2}$$

$$\frac{5}{z} = \frac{7}{28}$$

← tops  
← bottoms

$$\frac{140}{z} = \frac{7z}{7} \quad z = 20$$



$$\frac{12}{y} = \frac{7}{35}$$

$$7y = 420$$

$$y = 60$$

Are The large and small  $\Delta$ 's similar?