8.5 Notes

Monday, January 26, 2015
6:44 AM

Warm-upskis

$$a(a+4)\left(\frac{4a-6}{a+4} = \frac{3}{a} + 4\right)$$

$$a(4a-6) = 3(a+4) + 4(a(a+4))$$

$$\boxed{\frac{4a-6}{(a+4)} = \frac{(3+4a)}{a}}$$

$$a(4a-6) = (a+4)(4a+3)$$

$$4a^2-6a = 4a^2+19a+12$$

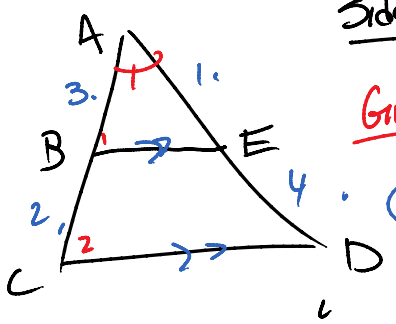
$$-6a = 19a+12$$

$$-25a = 12$$

$$a = -12/25$$

3 Proportion Theorems

Side splitter Theorem



Given $\overleftrightarrow{BE} \parallel \overleftrightarrow{CD}$ Then $\frac{AB}{BC} = \frac{AE}{ED}$

$$\frac{AB}{AC} = \frac{AE}{AD}$$

$AC = AB + BC$ $AD = AE + ED$

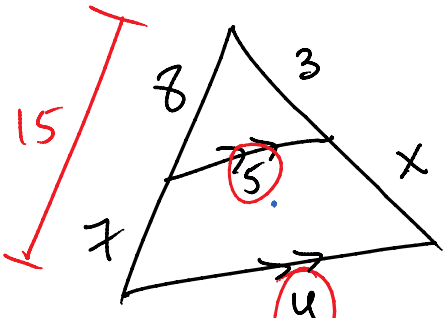
$$\frac{AB}{AB+BC} = \frac{AE}{AE+ED}$$

$$\frac{AE}{ED} = \frac{AB}{BC}$$

$$AE \cdot AB + AE \cdot BC = AB \cdot AE + AB \cdot ED$$

$$AE \cdot BC = AB \cdot ED$$

1 2 3 4

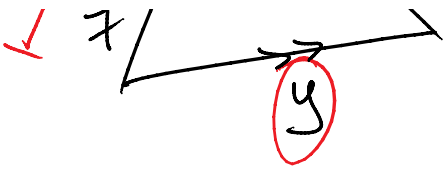


$$\frac{8}{7} = \frac{3}{x}$$

$8x = 21$

$x = 21/8$

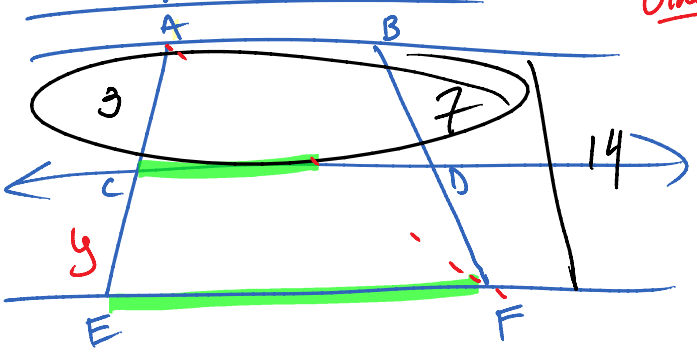
$$\frac{8}{15} = \frac{5}{u}$$



$$\frac{8}{15} = \frac{5}{y}$$

$$\frac{8}{15} = \frac{3}{x+3}$$

Side splitter Corollary

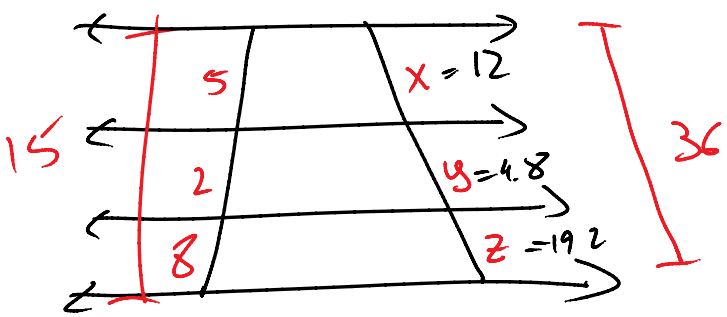


Given $\overline{AB} \parallel \overline{CD} \parallel \overline{EF}$ Then: Transversals are split proportionally

$$\frac{x}{y} = \frac{z}{q} \qquad \frac{x}{y} = \frac{w}{p}$$

$$\frac{p}{w} = \frac{q}{z} \Rightarrow \frac{w}{p} = \frac{z}{q}$$

$$\frac{x}{y} = \frac{w}{p} \qquad \frac{x}{x+y} = \frac{w}{w+p}$$



$$\frac{5}{x} = \frac{15}{36}$$

$$x = 12$$

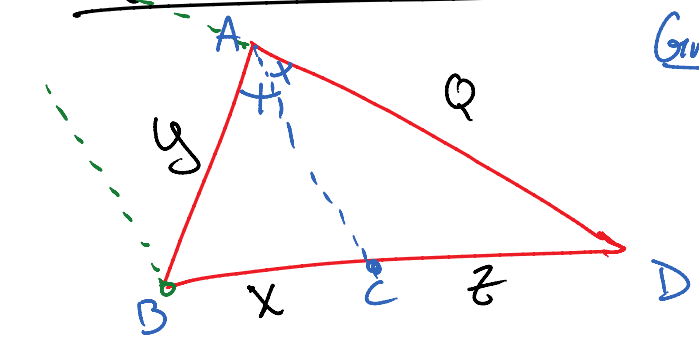
$$\frac{2}{y} = \frac{15}{36}$$

$$72 = 15y$$

$$y = 4.8$$

2

Angle Bisector Theorem



Given: $\overline{AC}$ bisects $\angle A$

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

$$\cancel{\frac{x}{Q} = \frac{z}{y}}$$

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