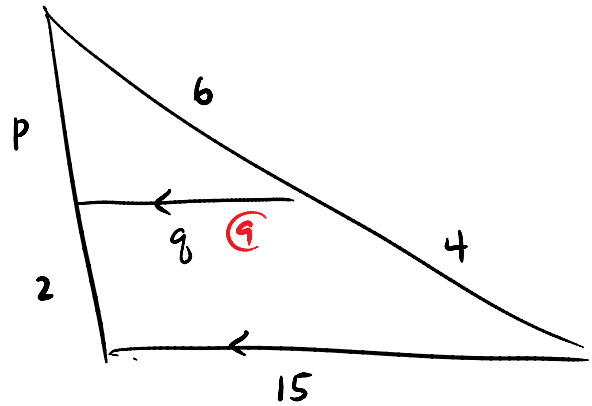
Section 8.5
p. 355: 3, 5, 7-9, 12, 13, 16, 20

#3 Solve for p and q in the figure shown



$\frac{6}{10} = \frac{q}{15}$

$\frac{3}{5} = \frac{q}{15}$

$5q = 45$

$\boxed{q = 9}$

$\frac{p}{p+2} = \frac{9}{15}$

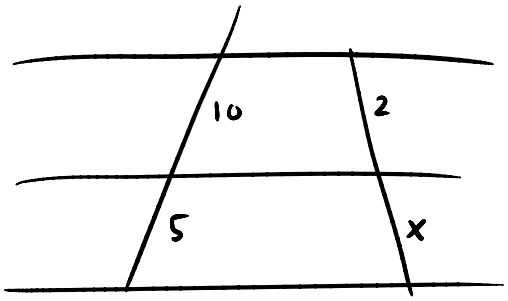
$15p = 9(p+2)$

$15p = 9p + 18$

$6p = 18$

$\boxed{p = 3}$

#5 Solve for x in the diagram shown

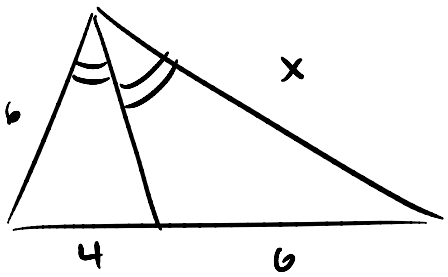


$\frac{10}{5} = \frac{2}{x}$

$10x = 10$

$\boxed{x = 1}$

#7 Find x



$\frac{6}{4} = \frac{x}{6}$

$4x = 36$

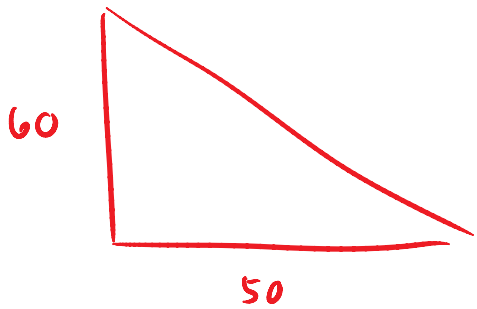
$\boxed{x = 9}$

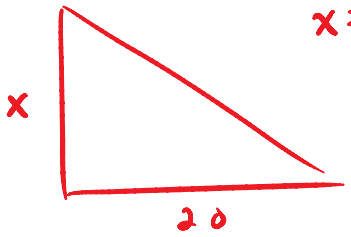
#8 A 60m tower casts a 50m shadow, while one-block away a telephone pole casts a 20-m shadow. How tall is the telephone pole?

$\frac{60}{x} = \frac{50}{20}$

$5x = 120$

$x = 24$





#9 Given: $\measuredangle J \cong \measuredangle MKO$

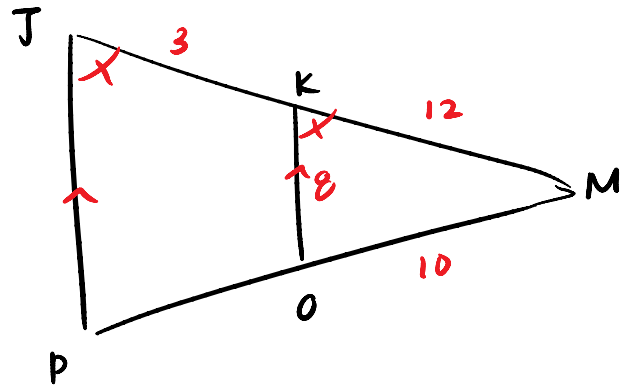
$MK = 12$

$KO = 8$

$MO = 10$

$JK = 3$

Find: PO and JP



$\frac{12}{3} = \frac{10}{PO}$

$12PO = 30$

$\boxed{PO = \frac{5}{2}}$

$\frac{12}{15} = \frac{8}{JP}$

$12JP = 120$

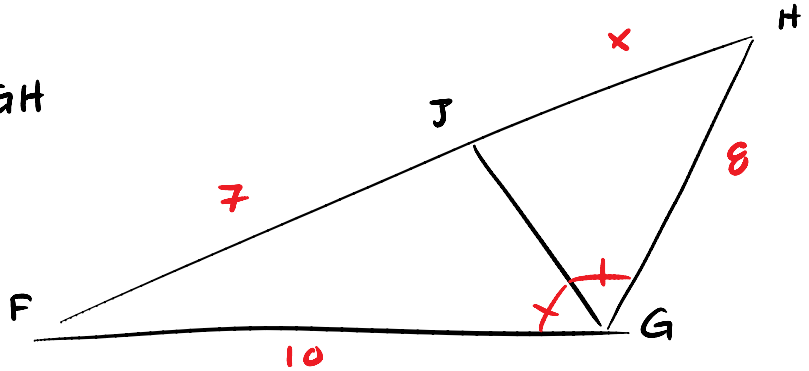
$\boxed{JP = 10}$

#12 Given: $\overrightarrow{GJ}$ bisects $\angle FGH$

$FG = 10$

$GH = 8$

$FJ = 7$



$\frac{10}{7} = \frac{8}{x}$

$10x = 56$

$\boxed{x = \frac{28}{5} = 5.6}$

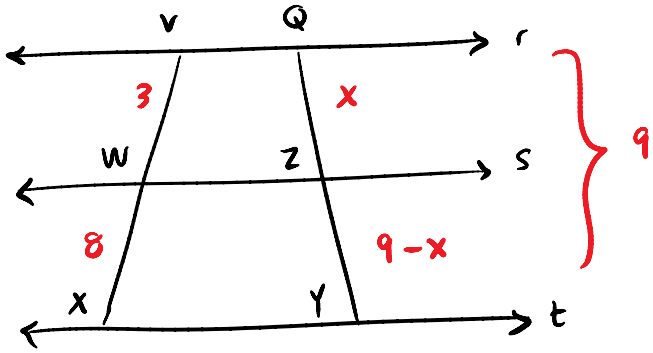
#13 Given: $r \parallel s \parallel t$

$WV = 3$

$WX = 8$

$QY = 9$

Find: QZ and ZY



$\frac{3}{8} = \frac{x}{9-x}$

$3(9-x) = 8x$

$27 - 3x = 8x$

$27 = 11x$

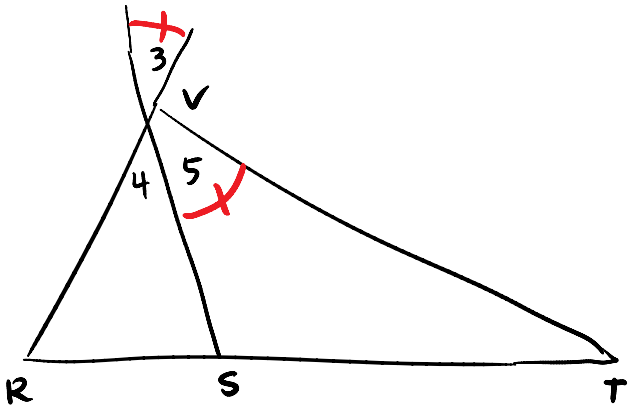
$\boxed{\frac{27}{11} = x}$

$9 - \frac{27}{11}$

$\frac{99}{11} - \frac{27}{11} = \boxed{\frac{72}{11}}$

#16 Given: $\measuredangle 3 \cong \measuredangle 5$

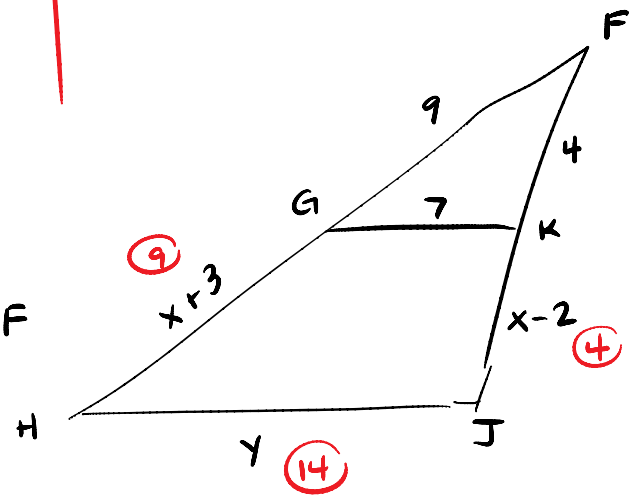
Prove: $\frac{RV}{VT} = \frac{RS}{ST}$



1. $\measuredangle 3 \cong \measuredangle 5$	1. Given
2. $\measuredangle 3 \cong \measuredangle 4$	2. V.A. are $\cong$
3. $\measuredangle 4 \cong \measuredangle 5$	3. Transitive
4. $\frac{RV}{VT} = \frac{RS}{ST}$	4. Angle bisector theorem

#20 Given: $\overleftrightarrow{GK} \parallel \overleftrightarrow{HJ}$
Lengths as shown

Find: The perimeter of ΔHJF



$$\frac{9}{x+3} = \frac{4}{x-2}$$

$$9(x-2) = 4(x+3)$$

$$9x - 18 = 4x + 12$$

$$5x = 30$$

$$x = 6$$

$$\frac{9}{18} = \frac{7}{y}$$

$$\frac{1}{2} = \frac{7}{y}$$

$$y = 14$$

$$P = 9(2) + 4(2) + 14$$

$$= 18 + 8 + 14$$

$$= \boxed{40}$$