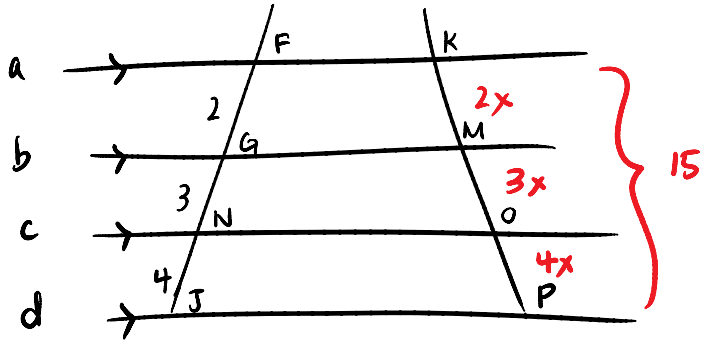
Section 8.5
p. 355: 4, 6, 10, 15, 18, 22, 26, 29

#4 Given: a||b||c||d
KP = 15

Find: KM, MO, and OP



$KM = 2\left(\frac{5}{3}\right) = \boxed{\frac{10}{3}}$

$MO = 3\left(\frac{5}{3}\right) = \boxed{5}$

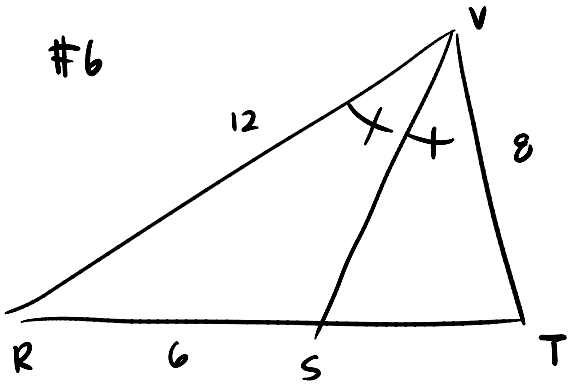
$OP = 4\left(\frac{5}{3}\right) = \boxed{\frac{20}{3}}$

$2x + 3x + 4x = 15$

$9x = 15$

$x = \frac{15}{9} = \frac{5}{3}$

#6



$\frac{12}{6} = \frac{8}{ST}$

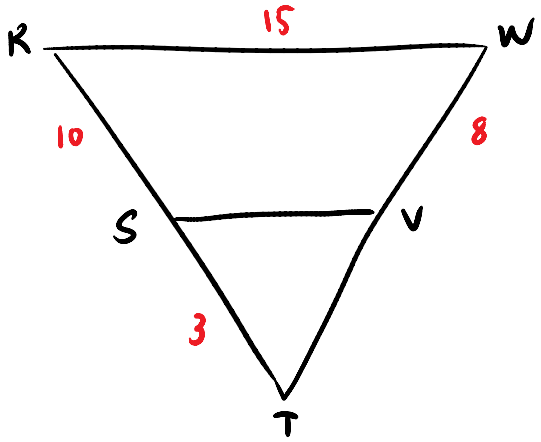
$\frac{2}{1} = \frac{8}{ST}$

$2ST = 8$

$\boxed{ST = 4}$

#10 Given: $\overleftrightarrow{SV} \parallel \overleftrightarrow{RW}$
RW = 15
RS = 10
ST = 3
WV = 8

Find: SV and VT



$\frac{10}{3} = \frac{8}{VT}$

$10VT = 24$

$\boxed{VT = \frac{12}{5}}$

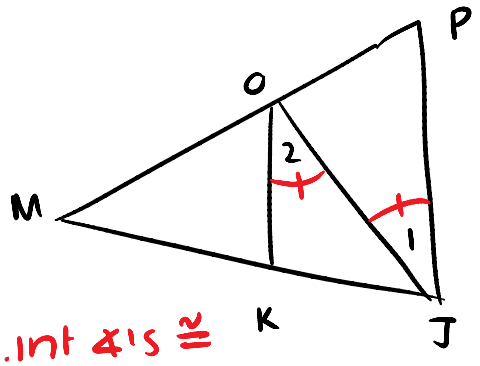
$\frac{3}{13} = \frac{SV}{15}$

$13SV = 45$

$\boxed{SV = \frac{45}{13}}$

#15 Given: $\angle 1 \cong \angle 2$

Conc: $\frac{KM}{JK} = \frac{MO}{OP}$



1. $\angle 1 \cong \angle 2$	1. Given
2. $\overline{OK} \parallel \overline{PJ}$	2. If alt. int $\angle$s $\cong$ → // lines
3. $\frac{KM}{JK} = \frac{MO}{OP}$	3. side splitter corollary

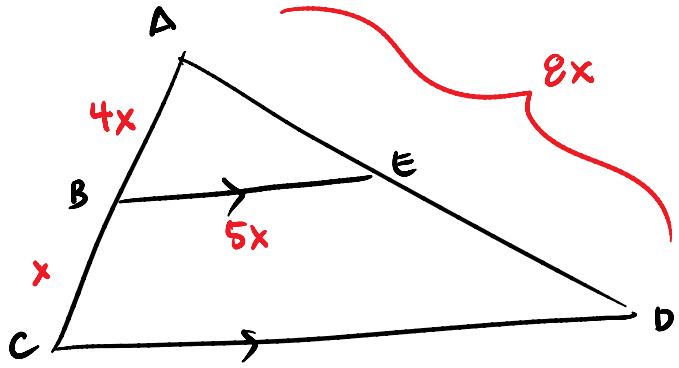
#18 Given: $\overline{BE} \parallel \overline{CD}$

$AB = 4x$

$BC = x$

$AD = 8x$

$BE = 5x$



Find: AE and CD (in terms of x)

$\frac{4x}{5x} = \frac{5x}{CD}$

$\frac{4}{5} = \frac{5x}{CD}$

$4CD = 25x$

$CD = \frac{25x}{4}$

$\frac{4x}{5x} = \frac{AE}{8x}$

$\frac{4}{5} = \frac{AE}{8x}$

$5AE = 32x$

$AE = \frac{32x}{5}$

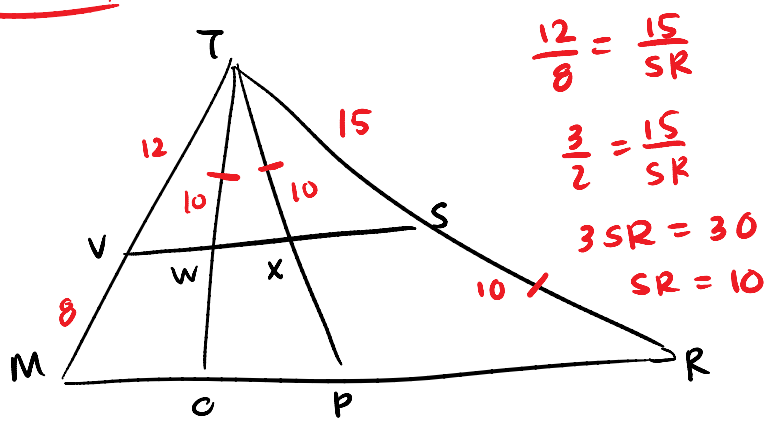
#22 Given: $\overline{VS} \parallel \overline{MR}$

$TV = 12$

$VM = 8$

$TS = 15$

$SR = TW = TX$



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

$\frac{3}{2} = \frac{15}{SR}$

$3SR = 30$

$SR = 10$

Find: XP

$\frac{15}{10} = \frac{10}{XP}$

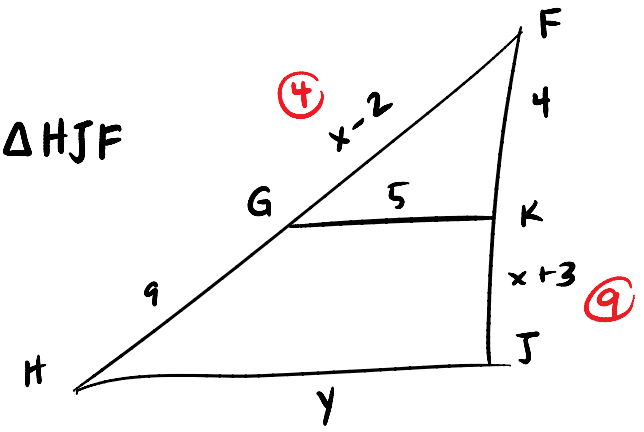
$\frac{3}{2} = \frac{10}{XP}$

$3XP = 20$

$XP = \frac{20}{3}$

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

Find: The perimeter of ΔHJF



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

$(x-2)(x+3) = 36$

$x^2 + x - 6 = 36$

$x^2 + x - 42 = 0$

$(x+7)(x-6) = 0$

$x = -7, 6$

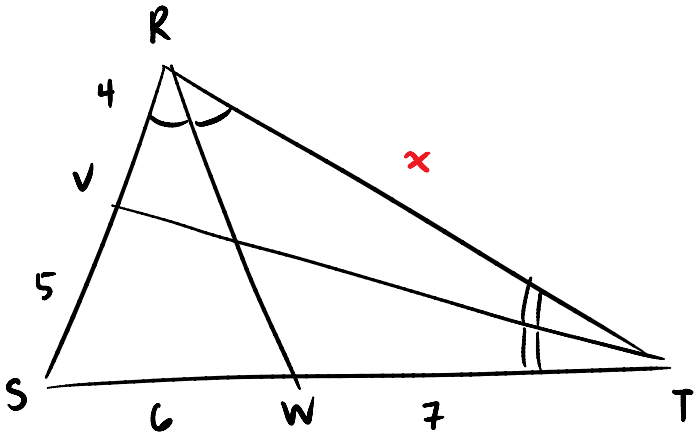
$\frac{4}{13} = \frac{5}{y}$

$4y = 65$

$y = \frac{65}{4} = 16\frac{1}{4}$

$P = 42\frac{1}{4}$

#29 Given: $\overrightarrow{RW}$ bisects $\angle SRT$
$\overrightarrow{TV}$ bisects $\angle RTS$
$RV = 4$
$SV = 5$
$SW = 6$
$WT = 7$



Show that the given info is impossible

$\frac{9}{6} = \frac{x}{7}$

$\frac{3}{2} = \frac{x}{7}$

$2x = 21$

$x = \frac{21}{2}$ or $10\frac{1}{2}$

$\frac{x}{4} = \frac{7}{5}$

$5x = 28$

$x = \frac{28}{5}$ or $5\frac{3}{5}$

two different x values! ∴