p. 355: 4, 6, 10, 15, 18, 22, 26, 29
\#4 Given: allb\|c\|d

$$
k p=15
$$

Find: $K M, M O$ and $O P$

$$
\left.\begin{array}{rlrl}
K M & =2\left(\frac{5}{3}\right) & M O & =3\left(\frac{5}{3}\right)
\end{array} \begin{array}{|r}
=4\left(\frac{5}{3}\right) \\
\end{array}\right)
$$


d

$$
\begin{aligned}
2 x+3 x+4 x & =15 \\
9 x & =15 \\
x & =\frac{15}{9}=\frac{5}{3}
\end{aligned}
$$



$$
\begin{gathered}
\frac{12}{6}=\frac{\varepsilon}{S T} \\
\frac{2}{1}=\frac{\varepsilon}{S T} \\
2 S T=8 \\
S T=4
\end{gathered}
$$

\#10 Given: $\overleftrightarrow{S V} \| \overleftrightarrow{R W}$

$$
\begin{aligned}
& R W=15 \\
& R S=10 \\
& S T=3 \\
& W V=8
\end{aligned}
$$

Find: $S V$ and $V T$

$$
\begin{aligned}
\frac{10}{3} & =\frac{8}{V T} \\
10 V T & =24 \\
V T & =\frac{12}{5}
\end{aligned}
$$

$$
\begin{aligned}
& \frac{3}{13}=\frac{S V}{15} \\
& 13 S V=45 \\
& S V=\frac{45}{13}
\end{aligned}
$$

\#15 Given: $x 1 \cong \not \approx 2$
Conc: $\frac{K M}{J K}=\frac{M O}{O P}$

1. $41 \cong x 2$
2. $\overline{O K} \| \overline{P J}$
3. $\frac{K M}{J K}=\frac{M O}{O P}$
\#18 Given: $\overline{B E} \| \overline{C D}$

$$
\begin{aligned}
& A B=4 x \\
& B C=x \\
& A D=8 x \\
& B E=5 x
\end{aligned}
$$

1. Given
2. If alt. int $415 \cong K$
$\rightarrow / l$ lines
3. side splitter corollary


Find: $A E$ and $C D$
(in terms of $x$ )

$$
\begin{aligned}
& \frac{4 x}{5 x}=\frac{5 x}{C D} \\
& \frac{4}{5}=\frac{5 x}{C D} \\
& 4 C D=25 x \\
& C D=\frac{25 x}{4}
\end{aligned}
$$

$$
\frac{4 x}{5 x}=\frac{A E}{8 x}
$$

$$
\frac{4}{5}=\frac{A E}{8 x}
$$

$$
5 A E=32 x
$$

$$
A E=\frac{32 x}{5}
$$

\#22 Given: $\overline{V S} \| \overline{M R}$

$$
\begin{aligned}
& T V=12 \\
& V M=8 \\
& T S=15 \\
& S R=T W=T X
\end{aligned}
$$

Find: XP


$$
\begin{aligned}
& \frac{15}{10}=\frac{10}{x p} \\
& \frac{3}{2}=\frac{10}{x p} \\
& 3 x p=20 \quad
\end{aligned} \quad x p=\frac{20}{3}
$$

\#26 Given: $\overleftrightarrow{G K} \| \overleftrightarrow{H J}$
lengths as shown
Find: The perimeter of $\triangle H J F$


$$
\begin{gather*}
\frac{(x-2)}{9}=\frac{4}{(x+3} \\
(x-2)(x+3)=36 \\
x^{2}+x-6=36 \\
x^{2}+x-42=0 \\
(x+7)(x-6)=0 \\
x=-7,6
\end{gather*}
$$



$$
\begin{aligned}
& \frac{4}{13}=\frac{5}{y} \\
& 4 y=65 \\
& y=\frac{65}{4}=16 \frac{1}{4}
\end{aligned}
$$

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

\#29 Given: $\overrightarrow{R W}$ bisects $\Varangle$ SR $\overrightarrow{\mathrm{TV}}$ bisects $\Varangle$ RT

$$
\begin{aligned}
& R V=4 \\
& S V=5 \\
& S W=6 \\
& W T=7
\end{aligned}
$$

Show that the given info is
 impossible

$$
\begin{aligned}
\frac{9}{6} & =\frac{x}{7} \\
\frac{3}{2} & =\frac{x}{7} \\
2 x & =21 \\
x & =\frac{21}{2} \text { or } 10 \frac{1}{2}
\end{aligned}
$$

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

$$
5 x=28
$$

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

two different $x$ values!"

