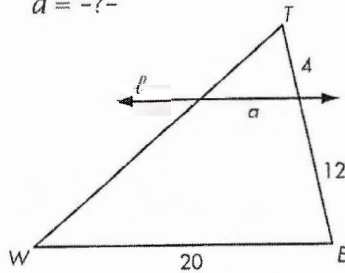


7.5 – Proportionality Relationships

Solve the following for the missing variable (all measurements are in centimeters). Show all necessary work.

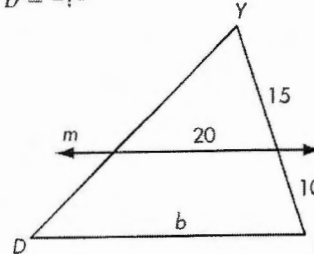
- 1) $\ell \parallel \overline{WE}$
 $a = -?-$



$$\frac{a}{20} = \frac{4}{16}$$

$$\boxed{a = 5\text{cm}}$$

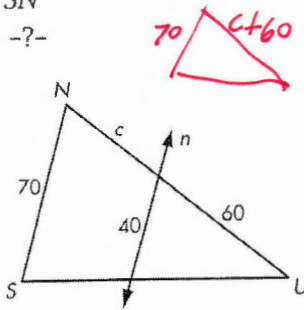
- 2) $m \parallel \overline{DR}$
 $b = -?-$



$$\frac{20}{b} = \frac{15}{25}$$

$$\boxed{b = 33\frac{1}{3}\text{cm}}$$

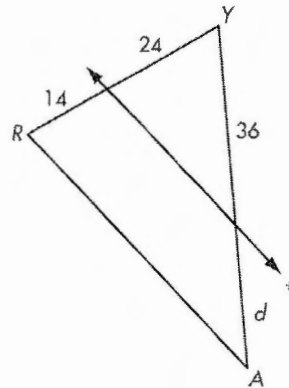
- 3) $n \parallel \overline{SN}$
 $c = -?-$



$$\frac{70}{40} = \frac{c+60}{60}$$

$$\boxed{c = 45\text{cm}}$$

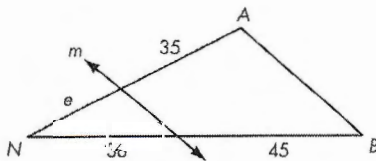
- 4) $\ell \parallel \overline{RA}$
 $d = -?-$



$$\frac{24}{14} = \frac{36}{d}$$

$$\boxed{d = 21\text{cm}}$$

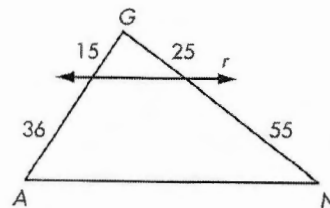
- 5) $m \parallel \overline{BA}$
 $e = -?-$



$$\frac{36}{45} = \frac{e}{35}$$

$$\boxed{e = 28\text{cm}}$$

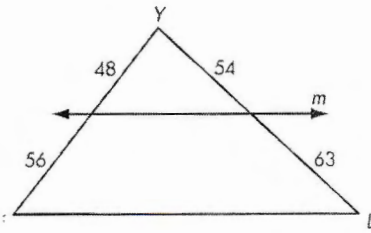
- 6) Is $r \parallel \overline{AN}$?



$$\frac{15}{36} \neq \frac{25}{55}$$

$$\boxed{\text{No}}$$

7) 7. Is $m \parallel \overline{FL}$?

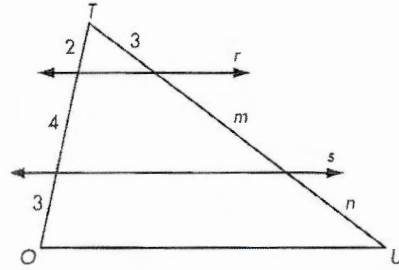


$$\frac{48}{56} = \frac{54}{63}$$

Yes

8) $r \parallel s \parallel \overline{OU}$

$$m = -? - \quad n = -? -$$



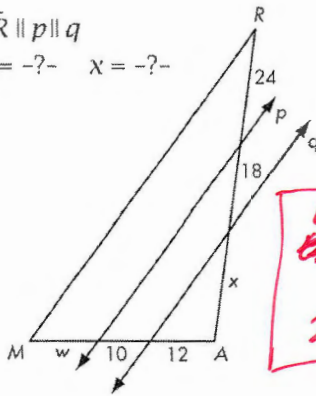
$$\frac{2}{4} = \frac{3}{m}$$

$$m = 6 \text{ cm}$$

$$\frac{2}{3} = \frac{3}{n}$$

$$n = 4.5 \text{ cm}$$

9) $\overline{MR} \parallel p \parallel q$
 $w = -? - \quad x = -? -$



$$w \approx 13.3 \text{ cm}$$

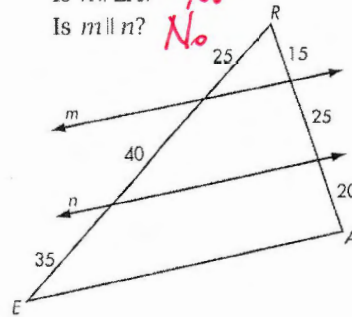
$$x = 21.6 \text{ cm}$$

10) 10. Is $m \parallel \overline{EA}$?

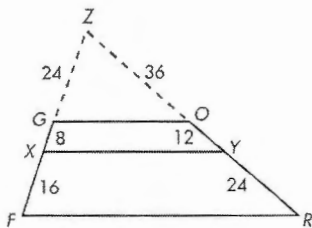
Is $n \parallel \overline{EA}$?

Is $m \parallel n$?

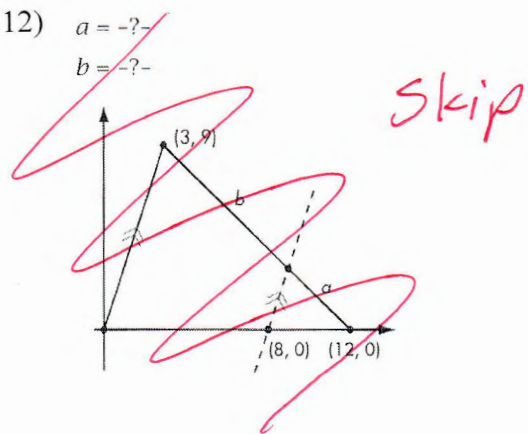
Yes
 No
 No



11) Is $\overline{XY} \parallel \overline{OG}$? Yes
 Is $\overline{XY} \parallel \overline{FR}$? Yes
 Is FROG a trapezoid? Yes

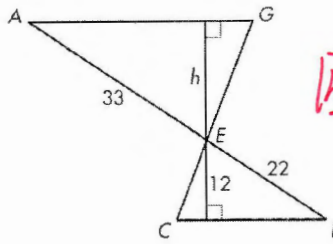


12) $a = -? -$
 $b = -? -$



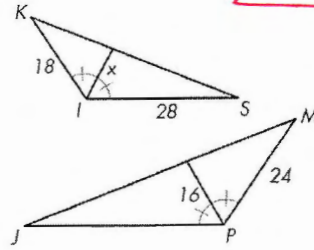
Skip

- 13) $\triangle ICE \sim \triangle AGE$
 $h = ?$



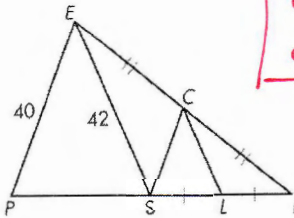
$$h = 18 \text{ cm}$$

- 14) $\triangle SKI \sim \triangle JMP$
 $x = ?$



$$x = 12 \text{ cm}$$

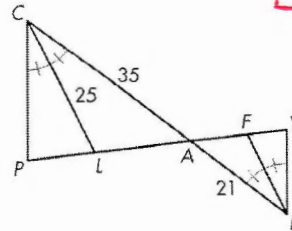
- 15) $\triangle PIE \sim \triangle SIC$
 Point S is the midpoint of PI.
 $CL = ?$
 $CS = ?$



$$CL = 21 \text{ cm}$$

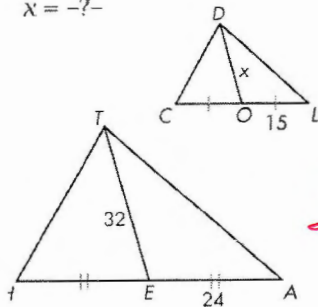
$$CS = 20 \text{ cm}$$

- 16) $\triangle CAP \sim \triangle DAY$
 $FD = ?$



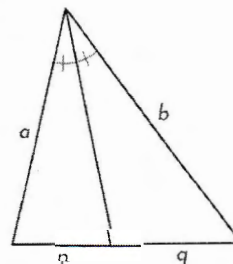
$$FD = 15 \text{ cm}$$

- 17) $\triangle HAT \sim \triangle CLD$
 $x = ?$



$$x = 20 \text{ cm}$$

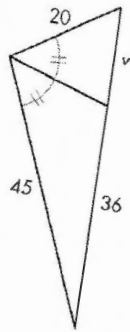
- 18) $a/b = ?$
 $a/p = ?$



$$\frac{a}{b} = \frac{p}{q}$$

$$\frac{a}{p} = \frac{b}{q}$$

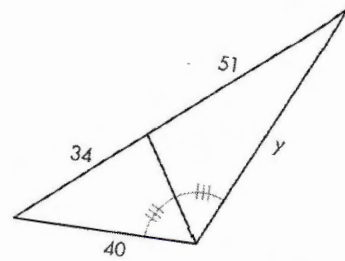
19) $v = ?$



$$\frac{45}{20} = \frac{36}{v}$$

$$v = 16 \text{ cm}$$

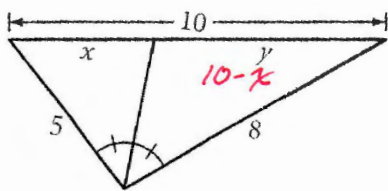
20) $y = ?$



$$\frac{40}{y} = \frac{34}{51}$$

$$y = 60 \text{ cm}$$

21) Find x and y .



$$\frac{5}{8} = \frac{x}{10-x}$$

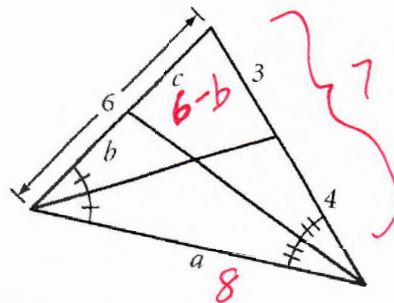
$$8x = 50 - 5x$$

$$13x = 50$$

$$x \approx 3.8$$

$$y \approx 6.2$$

22) Find a , b , and c .



$$\frac{a}{6} = \frac{4}{3}$$

$$a = 8$$

$$\frac{7}{8} = \frac{6-b}{b}$$

$$7b = 48 - 8b$$

$$15b = 48$$

$$b = 3.2$$

$$c = 2.8$$