

HW #2

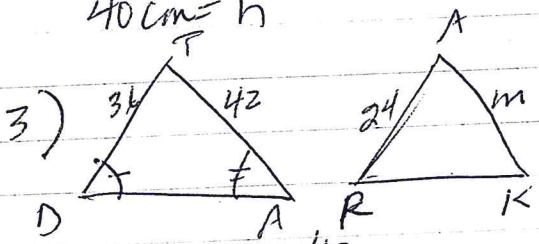
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1) $\frac{9}{9} = \frac{4}{6}$
 $6g = 36$
 $g = 6 \text{ cm}$

4) $\frac{45}{30} = \frac{n}{36}$ $\frac{45}{30} = \frac{63}{5}$
 $\frac{2}{2} = \frac{n}{36}$ $\frac{3}{2} = \frac{63}{5}$
 $108 = 2n$ $35 = 126$
 $54 = n$ $5 = 42 \text{ cm}$

2) $\frac{24}{30} = \frac{h}{50}$ $\frac{24}{30} = \frac{32}{k}$
 $\frac{4}{5} = \frac{h}{50}$ $24k = 960$
 $200 = 5h$ $k = 40 \text{ cm}$
 $40 \text{ cm} = h$

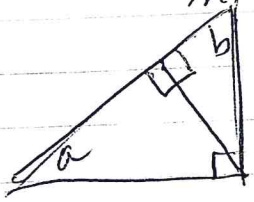
5) $\Delta AUL \not\sim \Delta MST$
 $\frac{37}{30} = \frac{35}{28}$
 Sides not proportional



$\frac{36}{24} = \frac{42}{m}$
 $\frac{3}{2} = \frac{42}{m}$
 $3m = 84$
 $m = 28 \text{ cm}$

6) $\Delta MOY \sim \Delta NOT$
 SAS
 $\frac{104}{91} = \frac{96}{84}$
 $104 \cdot 84 = 96 \cdot 91$

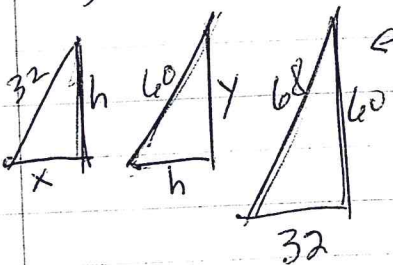
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$a + b + 90 = 180$
 $a + 90 + ? = 180$
 $? = b$

$b + 90 + ? = 180$
 $? = a$

So Δ 's are similar by AA



"dismantle"
 now write proportions & solve

$x = 15.9$ $h = 28.2 \text{ cm}$ $y = 52.1$

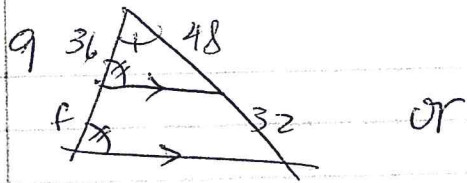
8) $\angle QTA \cong \angle TUR$ CA
 $\angle QAT \cong \angle ARU$ CA
 $\Delta QTA \sim \Delta QUR$

little = little
 big = big
 $\frac{3}{8} = \frac{4}{4e}$

$12 + 3e = 32$
 $3e = 20$
 $e = \frac{20}{3}$
 $6\frac{2}{3}$

AA shortcut

 $\frac{3}{5} = \frac{4}{e}$
 DON'T KNOW YET
 $\frac{20}{3}$



$$\text{or } \frac{36}{f} = \frac{48}{32}$$

$$f = 24 \text{ cm}$$

$$\frac{36}{36+f} = \frac{48}{48+32}$$

$$\frac{36 \cdot 80}{36 \cdot 48} = \frac{48 \cdot 36 + 48f}{48 \cdot 32}$$

~~$$\frac{80}{48} = \frac{48f}{48 \cdot 32}$$~~

$$\frac{1152}{48} = \frac{48f}{48}$$

$$f = 24 \text{ cm}$$

$$\begin{array}{r} 32 \\ 36 \\ \hline 192 \\ 96 \\ \hline 1152 \end{array}$$

$$g = 40 \text{ cm}$$

$$\frac{36+24+20}{36} = \frac{80+g}{48}$$

$$\frac{90}{36} = \frac{80+g}{48}$$

~~$$\frac{5}{2} = \frac{80+g}{48}$$~~

$$5 \cdot 48 = 160 + 2g$$

$$240 = 160 + 2g$$

$$\frac{3}{5} = \frac{y}{15} = \frac{30}{x} \quad g = 40$$

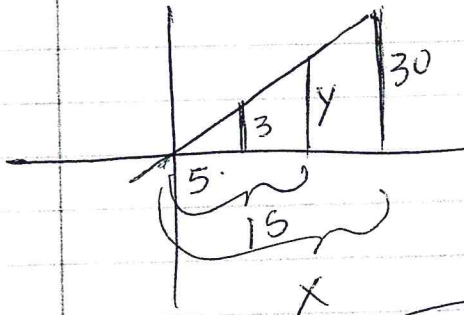
$$45 = 5y$$

$$y = 9$$

$$\frac{3}{5} = \frac{30}{x}$$

$$x = 50$$

12)



13)

$$\angle VPF = 61^\circ$$

$$\angle L = 29^\circ$$

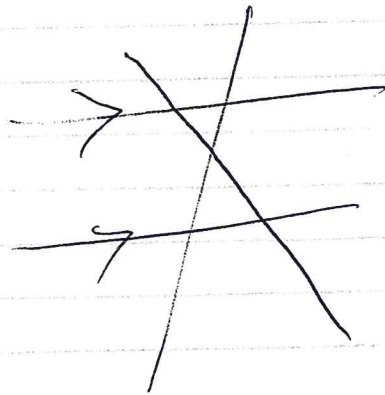
$$\frac{12}{3} = \frac{6}{7}$$

$$x = 15$$

$$\angle M \cong \angle F = 90^\circ$$

14) yes AA (AA are \cong)

15) ref



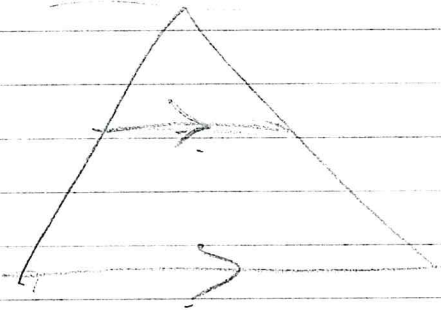
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The triangles are
similar

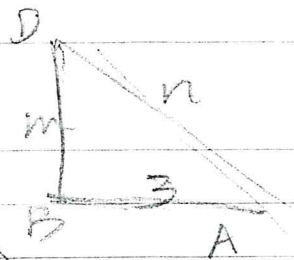
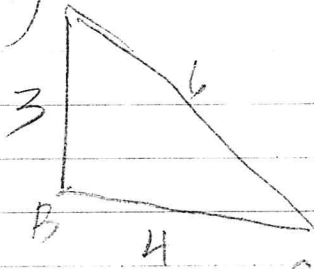
SAS

or AA

or SSS



18) A



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

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

$$4m = 9$$

$$4n = 18$$

$$m = 2.25 \text{ cm}$$

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