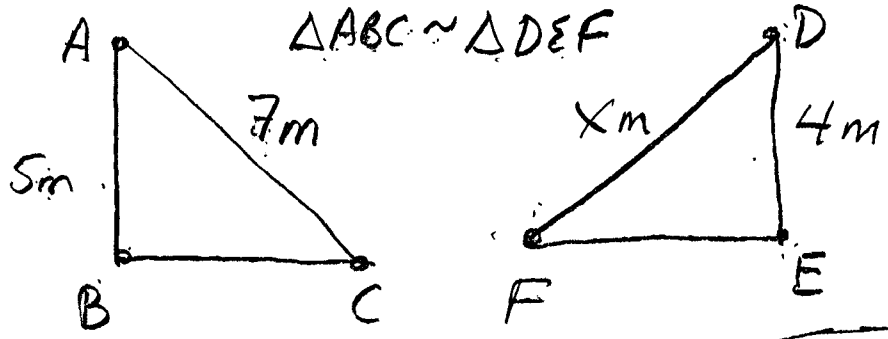
Algebra I Tues. 10-16-12 Class Notes

Homework Review – Pg 72 #1-9

① Similar ⇒ $\angle$'s $\cong$, sides "in proportion"
(↘ Corresponding)

② $\triangle ABC \sim \triangle DEF$



X = ?

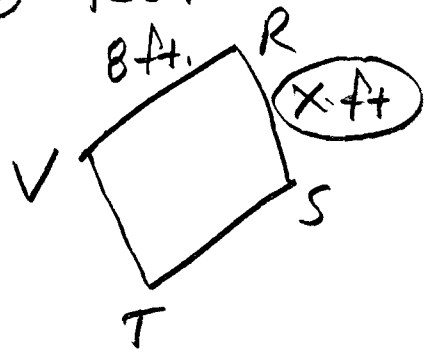
5 : 4 = 7 : X

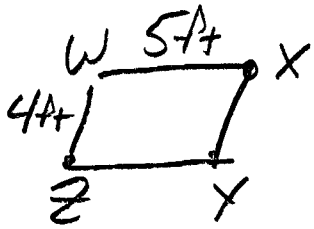
$$\frac{5}{4} = \frac{7}{X}$$

$$\frac{5X}{5} = \frac{28}{5}$$

$$X = \frac{28}{5}\,m = 5\frac{3}{5}\,m = 5.6\,m$$

③ $RSTV \sim WXYZ$ (FIND X)





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

$$40 = 4x$$

$$\boxed{10 \text{ ft} = x}$$

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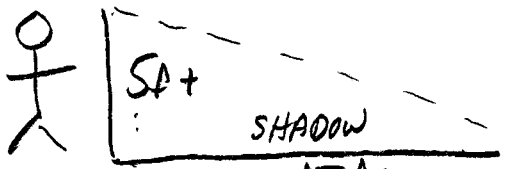
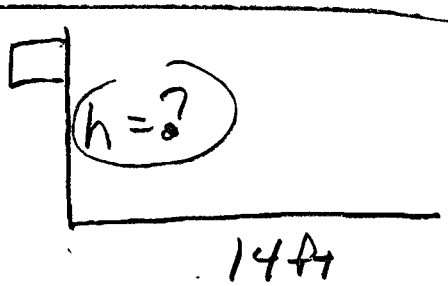
④ R



$3\frac{1}{2} = \frac{7}{2}$



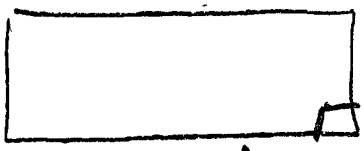
$$\frac{5}{h} = \frac{\frac{7}{2}}{14}$$

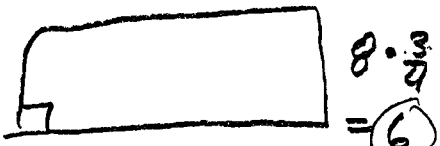
$$\frac{7}{2}h = 5 \cdot 14$$

$$h = 5 \cdot 14 \cdot \frac{2}{7}$$

$$\boxed{h = 20 \text{ ft}}$$

(5)





$A = 96\ ft^2$ $A = 54 ft^2$

Sides $= \frac{3}{4}$ $A = \frac{54}{96} = \frac{9}{16}$

$\left(\frac{3}{4}\right)^2 = \frac{3}{4} \cdot \frac{3}{4} = \frac{9}{16}$

Area is "square" of ratio of SIDES

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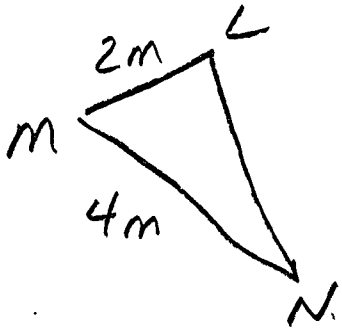
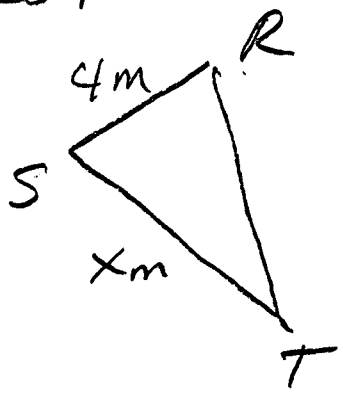
(6) $\triangle LMN \sim \triangle RST$

$X = ?$



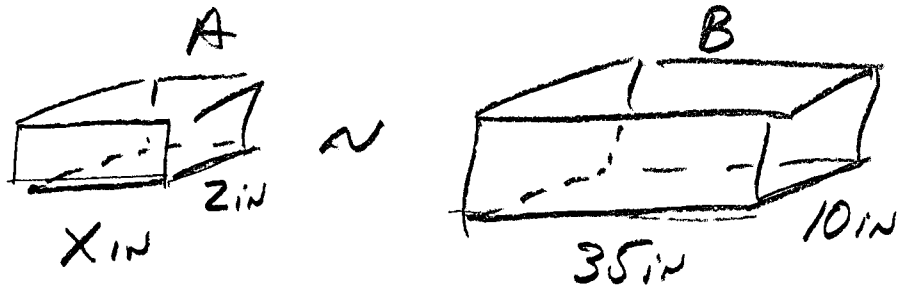


$\frac{2}{4} = \frac{4}{x}$

$2x = 16$

$x = 8\ m$

(7.)



$\sim$

$$\frac{X}{35} = \frac{\cancel{2}^{1}}{\cancel{10}_{5}}$$

$$5X = 35$$

$$\boxed{X = 7 \text{ IN}}$$

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(8)

$$\frac{18}{h} = \frac{\cancel{20}^{10}}{\cancel{42}_{21}}$$

$$\frac{10h}{10} = \frac{\cancel{18}^{9} \cdot 21}{\cancel{10}_{5}}$$

$$\boxed{h = \frac{189}{5} = 37.8 \text{ ft}}$$

(9) $\triangle_1 \Rightarrow 5, 12, 15$ inches

$\triangle_2 \Rightarrow 5 \cdot \frac{1}{5} = 1$

$12 \cdot \frac{1}{5} = \frac{12}{5}$

$15 \cdot \frac{1}{5} = 3$

Sides $\Rightarrow \frac{1}{5}$

$\triangle_1 \quad P_1 = 5 + 12 + 15 = 32$ in

$\triangle_2 \quad P_2 = \frac{5}{5} + \frac{12}{5} + \frac{15}{5} = \frac{32}{5}$

$$\frac{P_2}{P_1} = \frac{\frac{32}{5}}{32} = \frac{32}{5} \cdot \frac{1}{32} = \frac{1}{5} \checkmark$$

P = SAME RATIO AS SIDES