

A rectangular prism has dimensions  $\overbrace{8 \text{ cubits } 6 \text{ palms}}^{62 \text{ palms}}$   
 by  $\underbrace{3 \text{ cubits } 5 \text{ palms}}_{26 \text{ palms}}$  by  $\underbrace{4 \text{ cubits } 4 \text{ palms}}_{32 \text{ palms}}$ .

Find surface area in setats

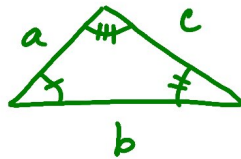
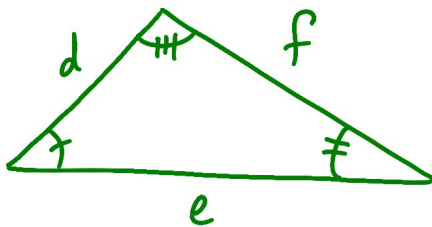
$$\begin{aligned} \text{S.A.} &= 2(62)(26) + 2(62)(32) + 2(26)(32) \\ &= 8856 \text{ palms}^2 \cdot \frac{1 \text{ cubits}^2}{49 \text{ palms}^2} = 180.73_2 \text{ cubits}^2 \end{aligned}$$

volume in khar

$$\begin{aligned} V &= 62 \cdot 26 \cdot 32 = 51584 \text{ palms}^3 \\ 51584 \cdot \frac{1}{343} &= 150.39 \text{ cubits}^3 \cdot \frac{1 \text{ khar}}{\frac{2}{3} \text{ cubits}^3} \\ &= 225.59 \text{ khar} \end{aligned}$$

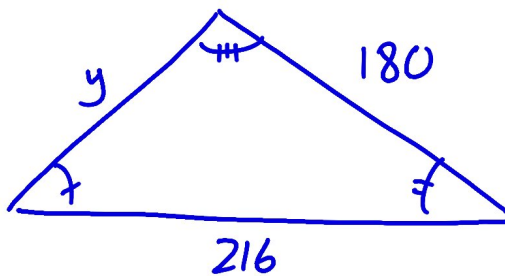
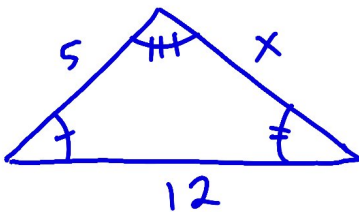
## Section 6.4 The Greeks

### Similar Triangles



$$\frac{a}{d} = \frac{b}{e} = \frac{c}{f}$$

ex:



$$\frac{y}{5} = \frac{180}{x} = \frac{216}{12}$$

$$\frac{y}{5} = \frac{216}{12}$$

$$12y = 5 \cdot 216$$

$$y = \frac{5 \cdot 216}{12}$$

$$y = 90$$

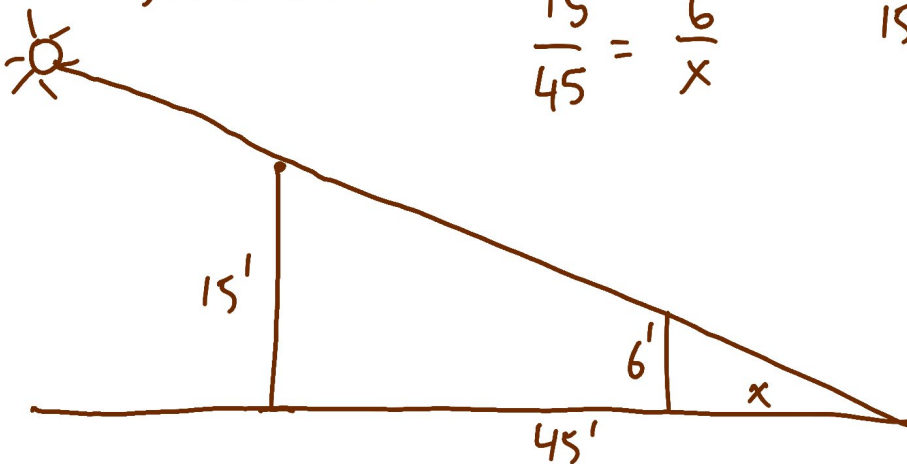
$$\frac{180}{x} = \frac{216}{12}$$

$$\frac{216x}{216} = \frac{12 \cdot 180}{216}$$

$$x = 10$$

ex: A 15' pole casts a 45' shadow.

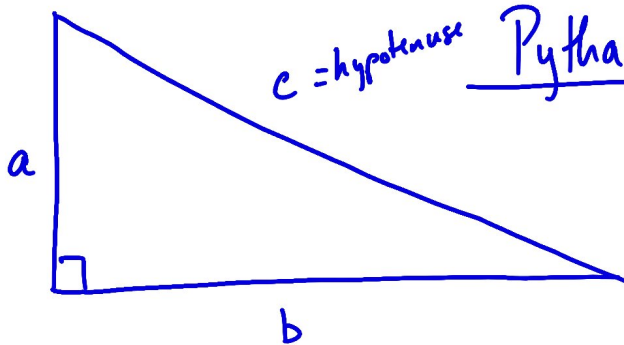
How long is the shadow of a 6' man at the same time?



$$\frac{15}{45} = \frac{6}{x}$$

$$15x = 45 \cdot 6$$

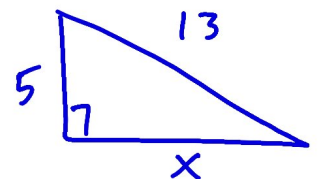
$$x = 18'$$



$c = \text{hypotenuse}$

Pythagorean Theorem

$$a^2 + b^2 = c^2$$



$$5^2 + x^2 = 13^2$$
$$x^2 = 169 - 25 = 144$$

$$x = 12$$

p 430-431

1-5, 7, 9, 11