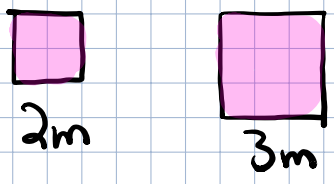
1/6/20

Be able to use special ratios to solve problems.



Scale Factor
Ratio of Corresponding Sides

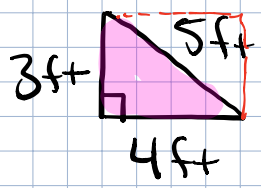
$P = 8m$ $P = 12m$

$A = 4m^2$ $A = 9m^2$

Scale Factor $= \frac{2}{3}$

Ratio of Perimeters $= \frac{8}{12} = \frac{2}{3}$

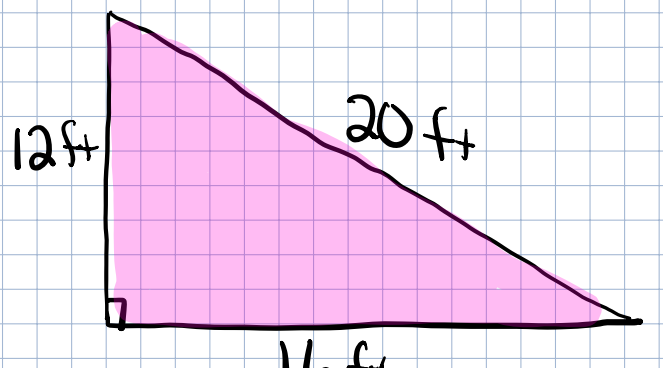
Ratio of Areas $= \frac{4}{9}$



$P = 12ft$

$A = \frac{1}{2}(4)(3)$

$6ft^2$



$P = 48ft$

$A = \frac{1}{2}(12)(16) = 96ft^2$

Scale Factor $= \frac{3}{12} = \frac{1}{4}$

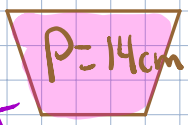
Ratio of Perimeters $= \frac{12}{48} = \frac{1}{4}$

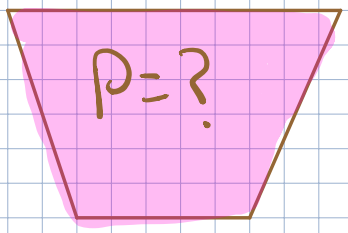
Ratio of Areas $= \frac{6}{96} = \frac{1}{16}$

$\frac{2^2}{3^2} = \frac{4}{9}$

$\frac{1^2}{4^2} = \frac{1}{16}$

Ratio of Areas is the scale factor squared





Perimeter

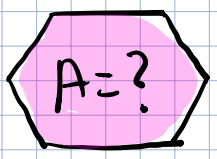
Scale Factor
2:5

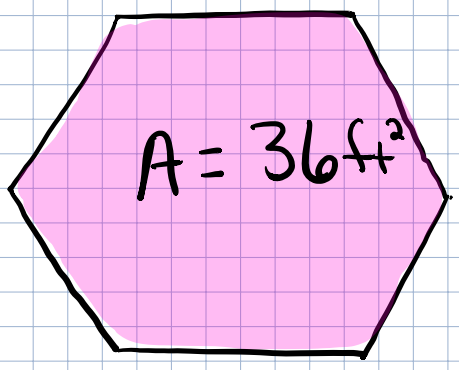
$\frac{2}{5} = \frac{14}{x}$

$\frac{2x}{2} = \frac{70}{2}$

$x = 35$ cm

set up proportion use scale factor





Area

Scale factor
2:3

Ratio of areas
$\frac{2^2}{3^2} = \frac{4}{9}$

$\frac{4}{9} = \frac{x}{36}$

$\frac{9x}{9} = \frac{144}{9}$

$x = 16\,ft^2$

Set up proportion using Scale factor Squared.