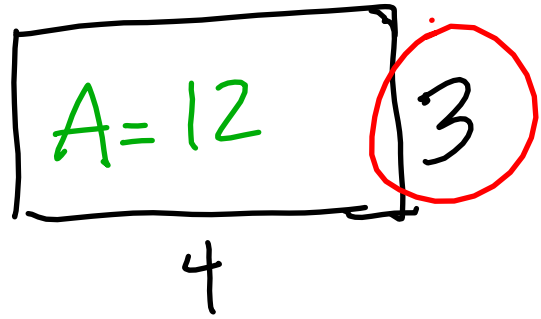
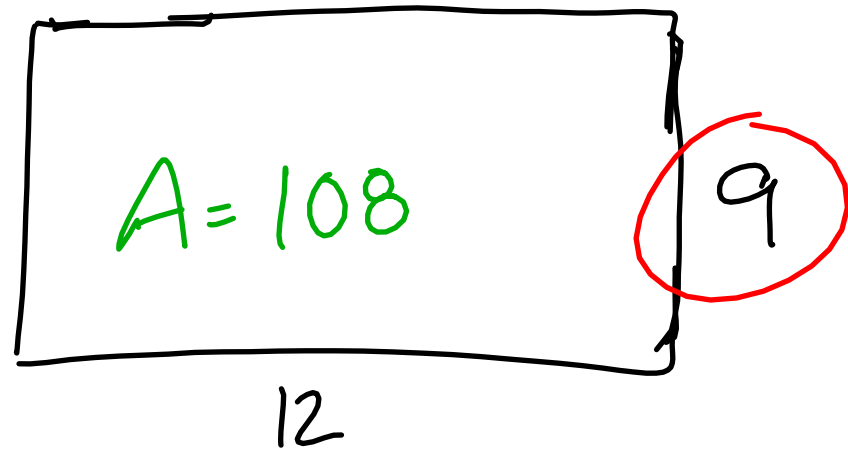


Perimeter/Area of Similar Figures

$$P = 14$$



$$P = 42$$



Ratio of Sides

$$\frac{3}{9} = \frac{1}{3}$$

Ratio of Perimeters

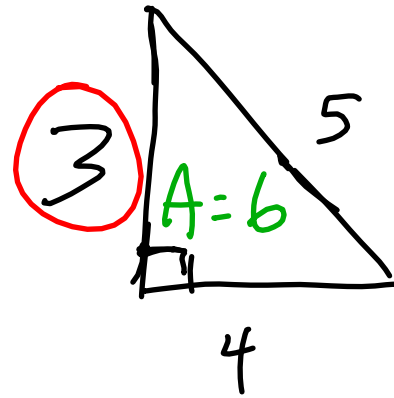
$$\frac{14}{42} = \frac{1}{3}$$

Ratio of Areas

$$\frac{12}{108} = \frac{1}{9} = \frac{1^2}{3^2}$$

$$A = (3l)(3w) \\ = 9lw$$

$$P = 12$$



Ratio of Sides

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

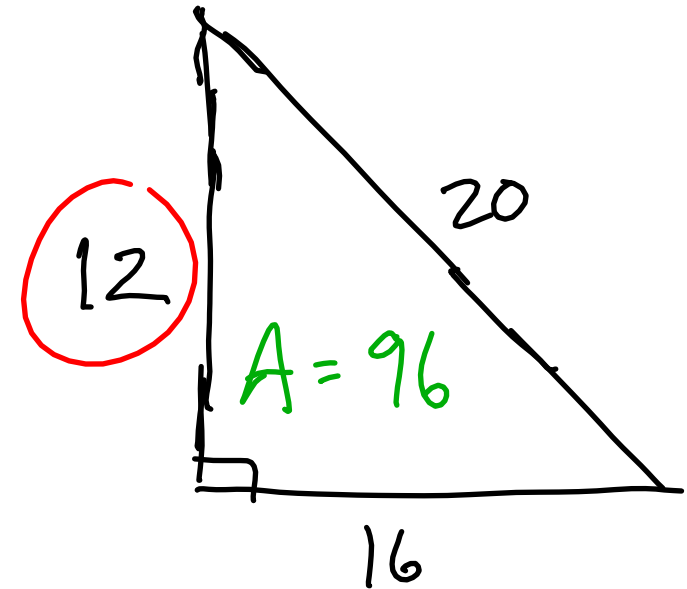
Ratio of Per.

$$\frac{12}{48} = \frac{1}{4}$$

Ratio of Areas

$$\frac{6}{96} = \frac{1}{16} = \frac{1^2}{4^2}$$

$$P = 48$$



For similar figures w/ sides in ratio of $\frac{a}{b}$

↳ Ratio of Perimeters = $\frac{a}{b}$

↳ Ratio of Areas = $\frac{a^2}{b^2}$

EX → Hexagon A → side = 3 cm

Hexagon B → side = 8 cm

R of S	R of P	R of A
$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3^2}{8^2} = \frac{9}{64}$

EX → Pentagon A → Perimeter = 50 in.

Pentagon B → Perimeter = 125 in.

R of S	R of P	R of A
$\frac{50}{125} = \frac{2}{5}$	$\frac{2}{5}$	$\frac{2^2}{5^2} = \frac{4}{25}$

EX → Circle A → Area = 16π ft²

Circle B → Area = 81π ft²

Ratio of A	R of S	R of P
$\frac{16\pi}{81\pi} = \frac{16}{81}$	$\frac{\sqrt{16}}{\sqrt{81}} = \frac{4}{9}$	$\frac{4}{9}$

EX → Dodecagon A → Area = 121 yd²

Dodecagon B → Area = 64 yd²

R of A	R of P	R of S
$\frac{121}{64}$	$\frac{\sqrt{121}}{\sqrt{64}} = \frac{11}{8}$	$\frac{11}{8}$

EX → Ratio of 2 shapes' sides is $\frac{4}{3}$. If the area of larger shape is 48 in^2 , what is the area of the smaller shape?

R of A
 $\frac{4^2}{3^2} = \frac{16}{9}$

~~$\frac{16}{9} = \frac{48}{x}$~~

$16x = 432$

$x = 27 \text{ in}^2$

EX → Ratio of 2 shapes' sides is $\frac{2}{7}$. If the area of the smaller shape is 16 cm^2 , what is the area of the larger shape?

R of A
 $\frac{2^2}{7^2} = \frac{4}{49}$

~~$\frac{4}{49} = \frac{16}{x}$~~

$4x = 784$

$x = 196 \text{ cm}^2$

HW: p. 638 → 10-30 even, 33, 40, 42, 52-54