Name_____ Date_____

Geo – Similar Shapes

Solve the proportions.

1) $\frac{d}{5} = \frac{80}{100}$

$d = 4$

2) $\frac{v}{20} = \frac{8}{4}$

$v = 40$

3) $\frac{r}{60} = \frac{40}{50}$

$r = 48$

4) $\frac{16}{48} = \frac{12}{n}$

$n = 36$

5) $\frac{49}{s} = \frac{56}{112}$

$s = 98$

6) $\frac{6}{26} = \frac{a}{39}$

$a = 9$

Tell whether the following are proportions. Explain.

7) $\frac{4}{7}$ and $\frac{20}{25}$

$100 \neq 140$

No, their cross-products do not equal each other

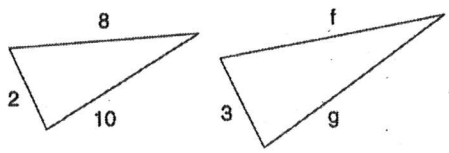
8) $\frac{21}{56}$ and $\frac{3}{8}$

$168 = 168$

Yes, their cross-products equal each other.

Each of the following pairs of triangles are similar. Find the missing sides.

9)



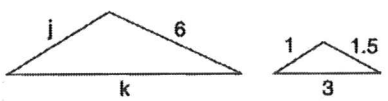
$\frac{2}{3} = \frac{8}{f}$

$f = 12$

$\frac{2}{3} = \frac{10}{g}$

$g = 15$

10)



$\frac{6}{1.5} = \frac{j}{1}$

$j = 4$

$\frac{6}{1.5} = \frac{k}{3}$

$k = 12$

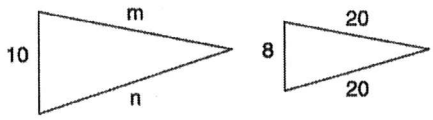
f = 12

g = 15

j = 4

k = 12

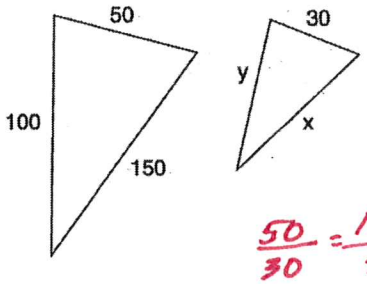
11)



$\frac{10}{8} = \frac{m}{20}$

$m = 25$

12)



$\frac{50}{30} = \frac{150}{x}$ $\quad x = 90$

$\frac{50}{30} = \frac{100}{y}$ $\quad y = 60$

m = 25

n = 25

x = 90

y = 60

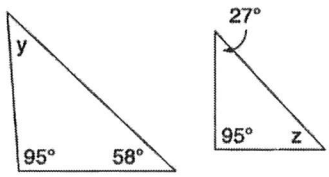
Find the missing angles of the similar triangles

13)

$n = 48°$

$m = 42°$

14)

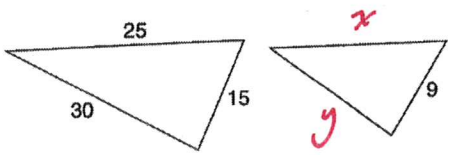


$y = 27°$

$z = 58°$

Find the perimeter of the triangle to the right if both triangles are similar.

15)



$\frac{15}{9} = \frac{25}{x}$ $\quad x = 15$

$\frac{15}{9} = \frac{30}{y}$ $\quad y = 18$

Perimeter = 15 + 18 + 9 = 42