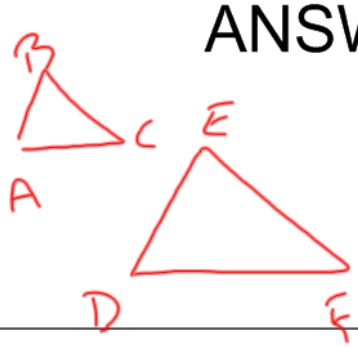
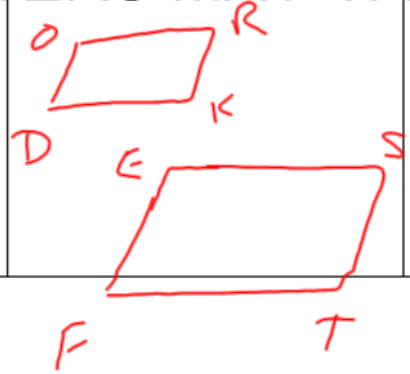
6.1 PRACTICE

Draw the following. Mark the congruent angles!

1. $\Delta ABC \sim \Delta DEF$



2. $\square DORK \sim \square FEST$

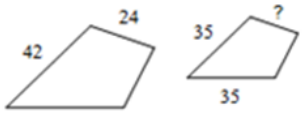


3. Kite $SULY \sim$ Kite $TIME$

ANSWERS MAY VARY!!

The polygons are similar. Find the missing length.

7.

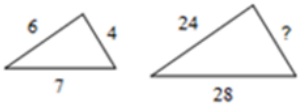


$\frac{42}{35} = \frac{24}{x}$

$\frac{42x}{42} = \frac{840}{42}$

$x = 20$

8.

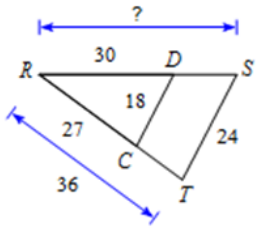


$\frac{6}{24} = \frac{4}{x}$

$\frac{6x}{6} = \frac{96}{6}$

$x = 16$

9.

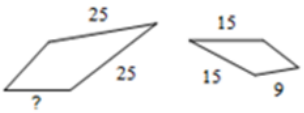


$\frac{30}{x} = \frac{18}{24}$

$\frac{18x}{18} = \frac{720}{18}$

$x = 40$

10.



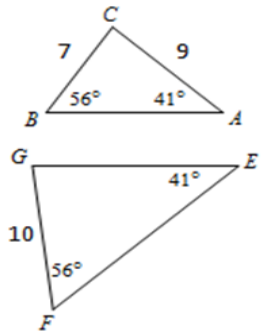
$\frac{25}{15} = \frac{x}{9}$

$\frac{15x}{15} = \frac{225}{15}$

$x = 15$

The following triangles are similar. Fill in the blank (order is important). Find the scale factor.

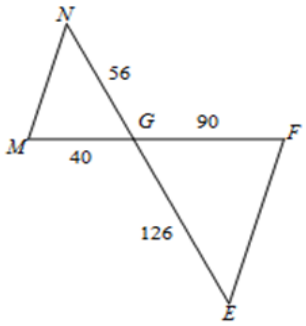
4.



$\Delta EFG \sim \Delta ABC$

Scale Factor = $\frac{10}{7}$ or $\frac{7}{10}$

5.

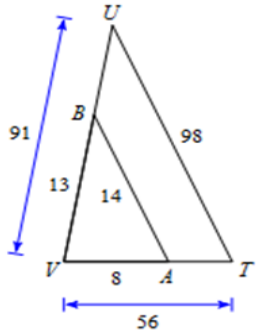


$\Delta GFE \sim \Delta GMN$

Scale Factor = $\frac{40}{90}$ or $\frac{56}{126}$

$0.\bar{4}$ or 2.25

6.



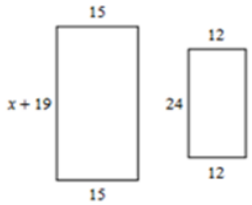
$\Delta VUT \sim \Delta VBA$

Scale Factor = $\frac{13}{91}$ or $\frac{14}{98}$

0.143 or $\frac{1}{7}$

The following polygons are similar. Find x.

11.



$\frac{x+19}{24} = \frac{15}{12}$

$360 = 12(x+19)$

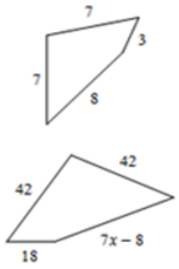
$360 = 12x + 228$

$-228 \quad -228$

$\frac{132}{12} = \frac{12x}{12}$

$11 = x$

12.



$\frac{3}{18} = \frac{8}{7x-8}$

$144 = 3(7x-8)$

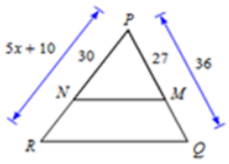
$144 = 21x - 24$

$+24 \quad +24$

$\frac{168}{21} = \frac{21x}{21}$

$8 = x$

13.



$\frac{30}{5x+10} = \frac{27}{36}$

$27(5x+10) = 1080$

$135x + 270 = 1080$

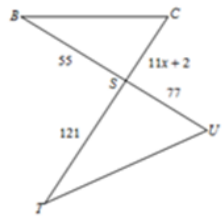
$-270 \quad -270$

$\frac{135x}{135} = \frac{810}{135}$

$x = 6$

Extend Page

14.



$\frac{11x+2}{77} = \frac{55}{121}$

$121(11x+2) = 4235$

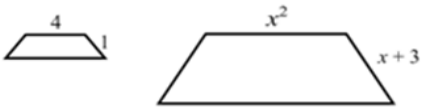
$1331x + 242 = 4235$

$-242 \quad -242$

$\frac{1331x}{1331} = \frac{3993}{1331}$

$x = 3$

15.



$\frac{4}{x^2} = \frac{1}{x+3}$

$4(x+3) = x^2$

$4x + 12 = x^2$

$-4x \quad -4x$

$12 = x^2 - 4x$

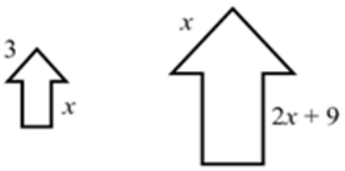
$-12 \quad -12$

$0 = x^2 - 4x - 12$

$0 = (x+2)(x-6)$

$x = -2$ or 6

16.



$\frac{3}{x} = \frac{x}{2x+9}$

$x^2 = 3(2x+9)$

$x^2 = 6x + 27$

$-6x \quad -6x$

$x^2 - 6x = 27$

$-27 \quad -27$

$x^2 - 6x - 27 = 0$

$(x+3)(x-9) = 0$

$x = -3$

$x = 9$

Extend Page