

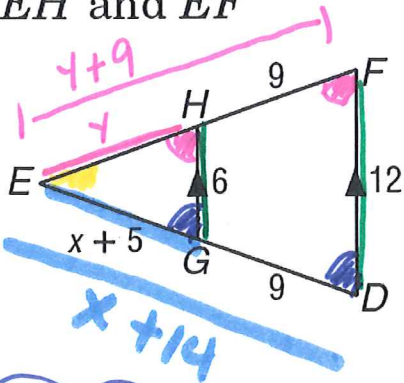
Name: _____

Practice Examples

Identify the Similar triangles, how you know they are similar, find the variable(s) and the measures of the indicated sides.

MUST use full Δ sides!

1. \overline{EH} and \overline{EF}



Find x:

$$\frac{x+5}{x+14} = \frac{6}{12}$$

$$12(x+5) = 6(x+14)$$

$$12x + 60 = 6x + 84$$

$$6x = 24$$

$$\boxed{x = 4}$$

Find EH (y)

$$\frac{y}{y+9} = \frac{6}{12}$$

$$12y = 6(y+9)$$

$$12y = 6y + 54$$

$$6y = 54$$

$$y = 9$$

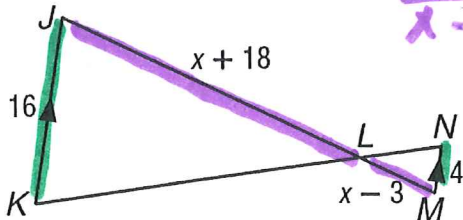
$$\boxed{EH = 9}$$

$$EF = 9 + 9$$

$$\boxed{EF = 18}$$

$\Delta EGH \sim \Delta EDF$
by AA sim

2. \overline{JL} and \overline{LM}



Find x:

$$\frac{x+18}{x-3} = \frac{16}{4}$$

$$4(x+18) = 16(x-3)$$

$$4x + 72 = 16x - 48$$

$$120 = 12x$$

$$\boxed{10 = x}$$

Find JL

$$JL = 10 + 18$$

$$\boxed{JL = 28}$$

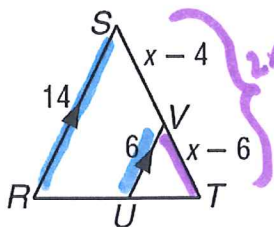
$\Delta JKL \sim \Delta MNL$
by AA sim!

Find LM

$$LM = 10 - 3$$

$$\boxed{LM = 7}$$

3. \overline{VT} and \overline{ST}



Find x

$$\frac{x-6}{2x-10} = \frac{6}{14}$$

$$14(x-6) = 6(2x-10)$$

$$14x - 84 = 12x - 60$$

$$2x = 24$$

$$\boxed{x = 12}$$

$$VT = 12 - 6$$

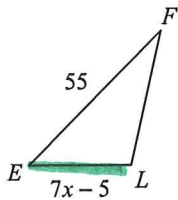
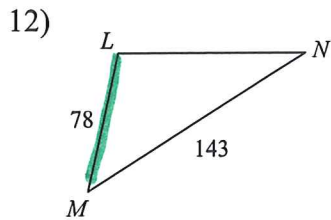
$$\boxed{VT = 6}$$

$$ST = 2(12) - 10$$

$$\boxed{ST = 14}$$

$\Delta TVU \sim \Delta TSR$
by AA sim

Solve for x . The triangles in each pair are similar.



$$\frac{7x-5}{78} = \frac{55}{143}$$

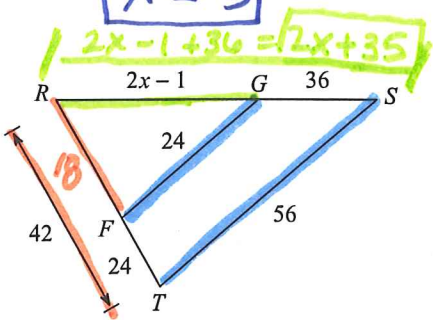
$$143(7x-5) = 78 \cdot 55$$

$$1001x - 715 = 4290$$

$$1001x = 5005$$

$$\boxed{x = 5}$$

14)



$$\frac{2x-1}{2x+35} = \frac{18}{42}$$

$$42(2x-1) = 18(2x+35)$$

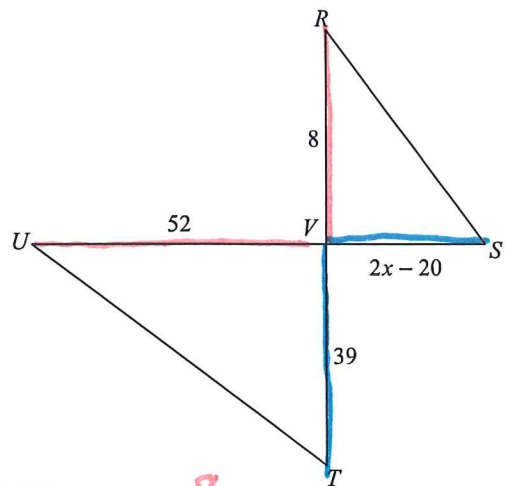
$$84x - 42 = 36x + 630$$

$$48x - 42 = 630$$

$$48x = 672$$

$$\boxed{x = 14}$$

13)



$$\frac{2x-20}{39} = \frac{8}{52}$$

$$52(2x-20) = 39 \cdot 8$$

$$104x - 1040 = 312$$

$$104x = 1352$$

$$\boxed{x = 13}$$