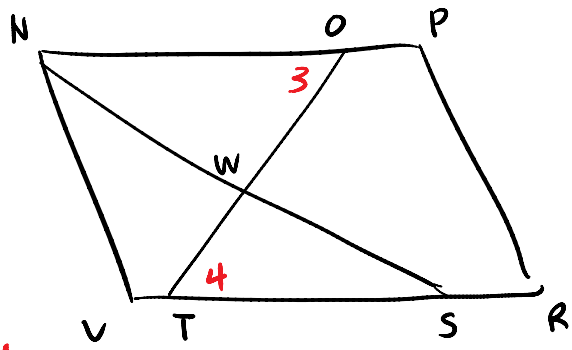
8.3 p. 341: 3, 8, 11, 16-20, 22

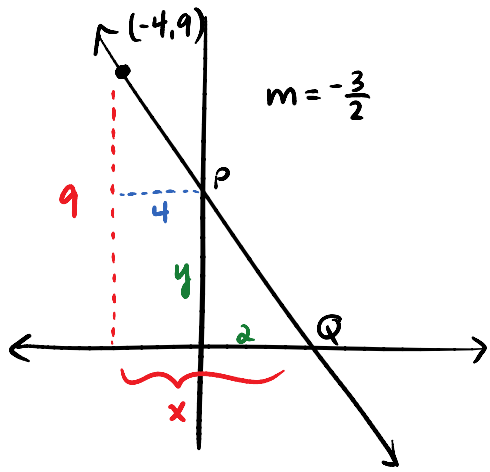
#3 Given: NPRV is a ▱
Conc: $\Delta NWO \sim \Delta SWT$



1. NPRV is a ▱	1. Given
2. $\angle NWO \cong \angle SWT$ (A)	2. V.A. are $\cong$
3. $\overline{NP} \parallel \overline{VR}$	3. If ▱ → opp. sides $\parallel$
4. $\angle 3 \cong \angle 4$ (A)	4. If $\parallel$ lines then alt int $\angle$s $\cong$
5. $\Delta NWO \sim \Delta SWT$	5. AA ~

#8 In ΔFGH $FG=6$ $GH=8$ $FH=12$
$\Delta F'G'H'$ $F'G'=15$ $G'H'=20$ $F'H'=30$
Similar? Yes! by SSS~

#10



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

$3x = 18$

$x = 6$

$Q:(2,0)$

$\frac{3}{2} = \frac{y}{2}$

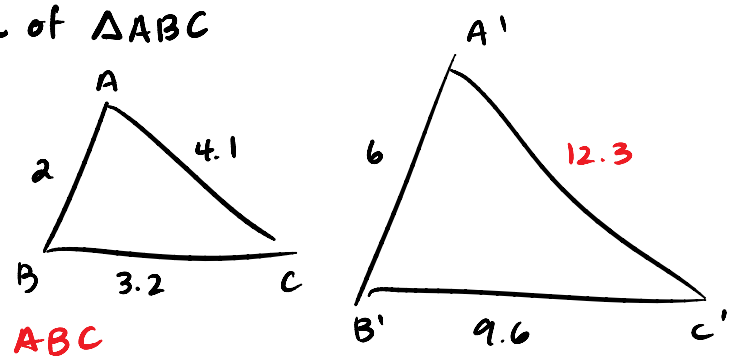
$y = 3$

$P:(0,3)$

#11 Given $\Delta A'B'C'$ is not a dilation of ΔABC
Prove: $A'C' \neq 12.3$

Assume $A'C' = 12.3$

Then: $\frac{6}{2} = \boxed{3}$ $\frac{12.3}{4.1} = \boxed{3}$ $\frac{9.6}{3.2} = \boxed{3}$

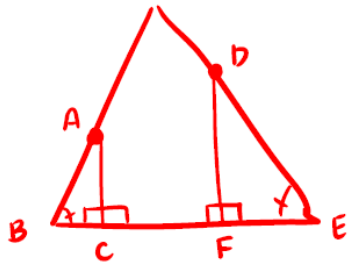


So $\Delta A'B'C'$ would be a dilation of ΔABC by a factor of 3 by SSS~
but this contradicts our given ∴ our assumption is false and $A'C' \neq 12.3$

16 Indicate whether the statement is true Always, Sometimes, or Never (A, S, or N)

a. If two triangles are similar, then they are congruent. S
b. If two triangles are congruent, then they are similar. A
c. An obtuse triangle is similar to an acute triangle. N
d. Two right triangles are similar. S
e. Two equilateral polygons are similar. S
f. Two equilateral triangles are similar. A
g. Two rectangles are similar if neither is a square. S

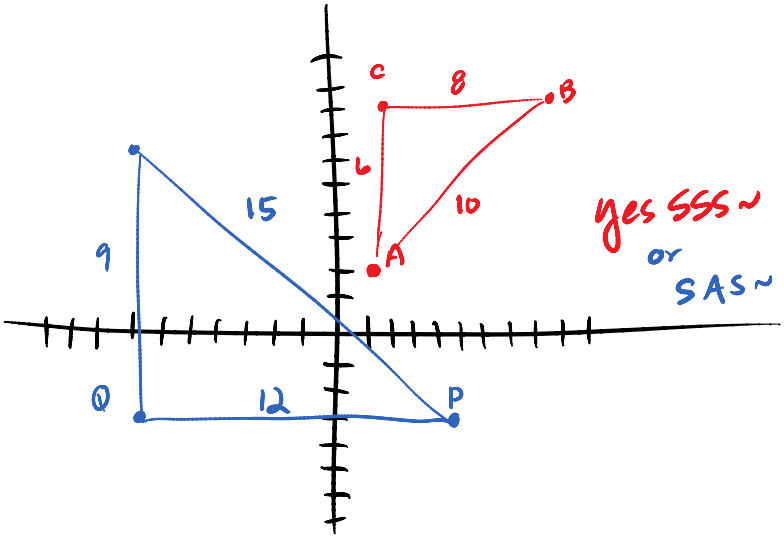
#17 From two points, one on each leg of an isosceles triangle, perpendiculars are drawn to the base. Prove that the triangles formed are similar.



$\Delta ABC \sim \Delta DEF$ by AA~

#18

A = (1,2)
B = (9,8)
C = (1,8)
P = (5,-3)
Q = (-7,6)
R = (-7,-3)
AB = 10
PQ = 15

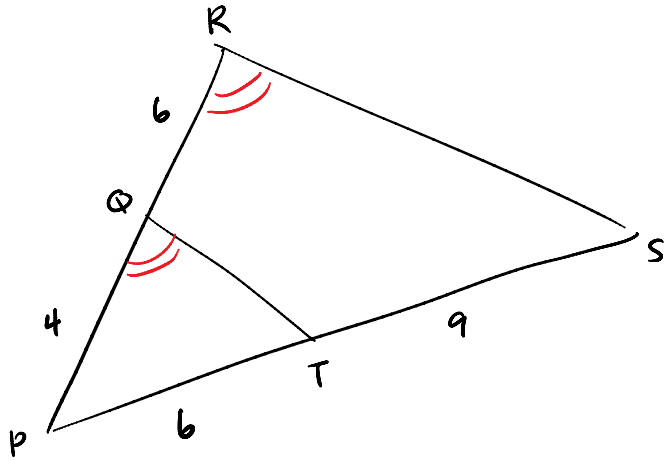


yes SSS~
or
SAS~

#19

a. Is $\Delta PQT \sim \Delta PRS$ Yes, SAS~

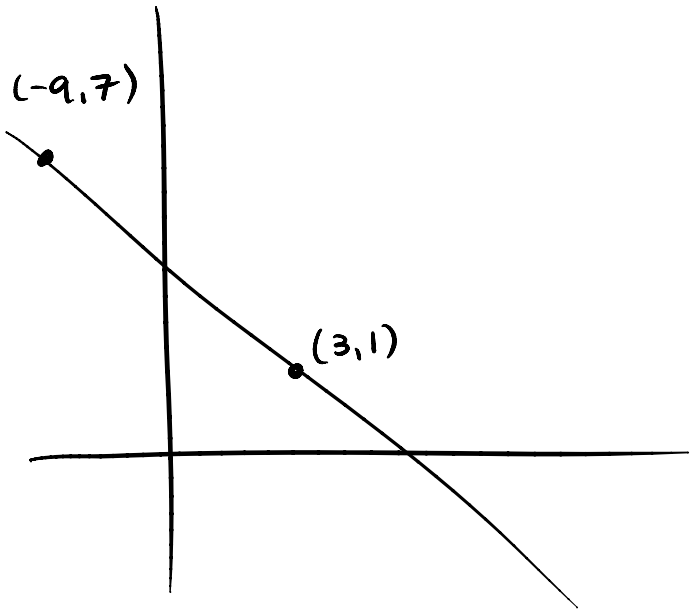
b. Is $\overline{QT} \parallel \overline{RS}$ yes, if corr ∠s ≅ → ∥ lines



#20 a. slope?

$(-9,7)$
$(3,1)$

$m = \frac{7-1}{-9-3} = \frac{6}{-12} = -\frac{1}{2}$



b. As the x values of points on the line increase by 3, how much do the y values increase or decrease

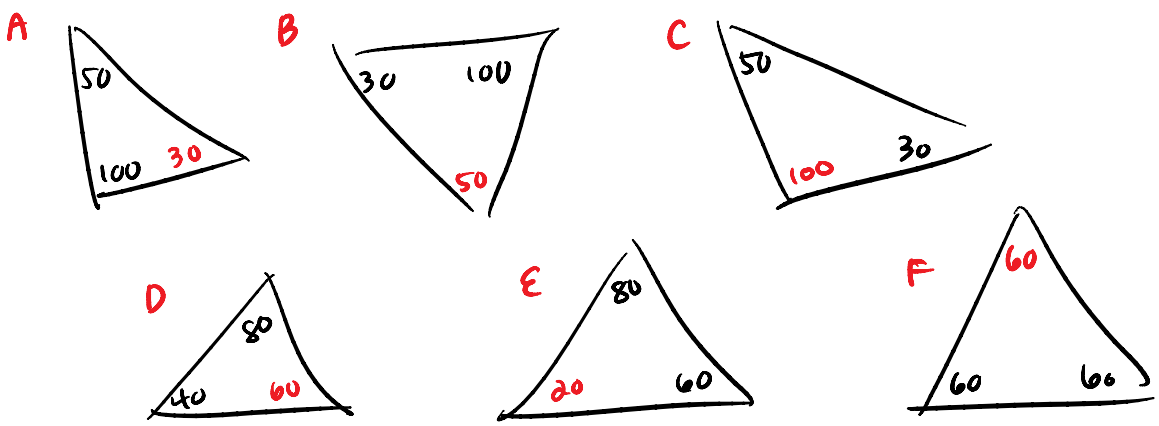
$\frac{\Delta y}{\Delta x}$ $\quad -\frac{1}{2} = \frac{y}{3}$

$2y = -3$

$y = -3/2$

decrease by 1.5

#22



AB BC CD DE EF
AC BD CE DF
AD BE CF
AE BF
AF

4/15 :)