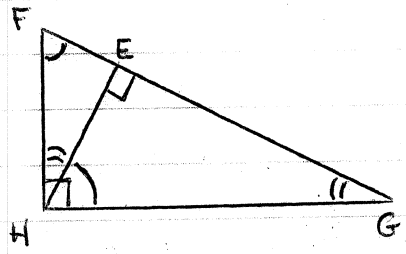
Geometry Ch 7-3 Exer., pg 447 #3-4, 8-10, 11, 13-18, 21-23

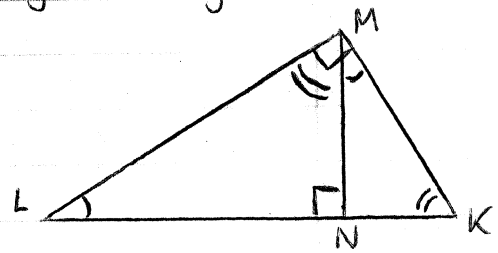
Identify the 3 similar triangles in the given diagram

3.



$\Delta FHG \sim \Delta FEH \sim \Delta HEG$

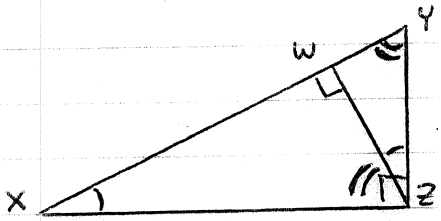
4.



$\Delta LMN \sim \Delta LKM \sim \Delta MKN$

Write a similarity statement for the 3 Δ's in the diagram. Then complete the proportion.

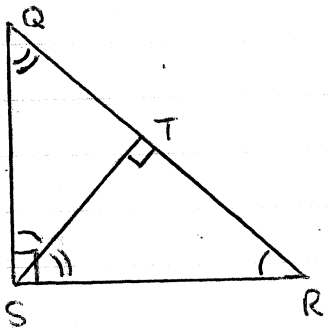
8. $\frac{XW}{?} = \frac{ZW}{YW}$



$\Delta XZW \sim \Delta ZYW \sim \Delta XYZ$

$\frac{XW}{\boxed{ZW}} = \frac{ZW}{YW}$

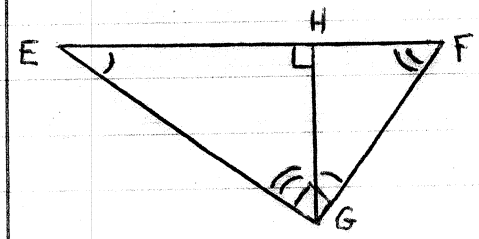
9. $\frac{?}{SQ} = \frac{SQ}{TQ}$



$\Delta SQT \sim \Delta RST \sim \Delta RQS$

$\frac{\boxed{RQ}}{SQ} = \frac{SQ}{TQ}$

10. $\frac{EF}{EG} = \frac{EG}{?}$

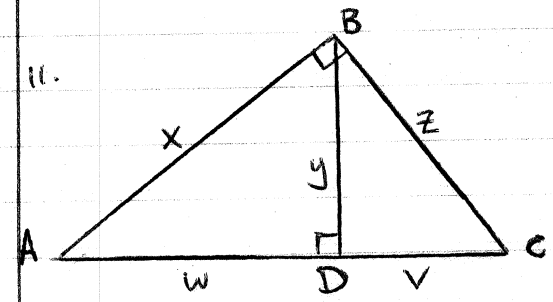


$\Delta EGH \sim \Delta GFH \sim \Delta EFG$

$\frac{EF}{EG} = \frac{EG}{\boxed{EH}}$

Describe and correct the error in writing a proportion.

11.



$\Delta ABD \sim \Delta BCD \sim \Delta ACB$

$\frac{w}{y} = \frac{y}{v}$

$wv = y^2$

$\boxed{\sqrt{wv} = y}$

$\Delta ABD \sim \Delta BCD \sim \Delta ACB$

$\frac{w}{x} = \frac{x}{w+v}$

$w(w+v) = x^2$

$\boxed{\sqrt{w(w+v)} = x}$

GEOMETRIC MEAN METHOD/ SUMMARY

$\Delta ABD \sim \Delta BCD \sim \Delta ACB$

$\frac{v}{z} = \frac{z}{w+v}$

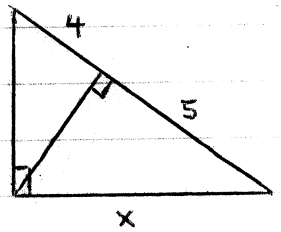
$v(w+v) = z^2$

$\boxed{\sqrt{v(w+v)} = z}$

See GEOMETRIC MEAN METHOD/SMMY on #11

Find variable values. Round decimal answers to nearest tenth.

13.

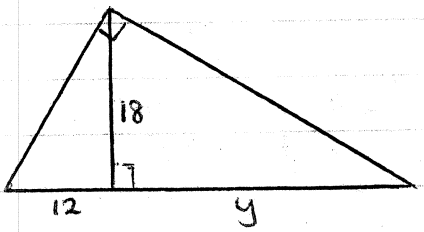


$x = \sqrt{5(9)}$

$x = \sqrt{45}$

$x = 6.7$

14.

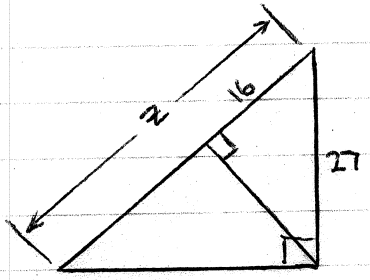


$18 = \sqrt{12y}$

$324 = 12y$

$27 = y$

15

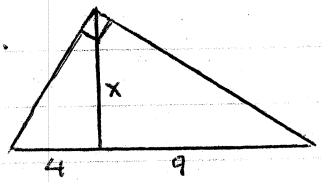


$27 = \sqrt{16z}$

$729 = 16z$

$45.6 = z$

16.

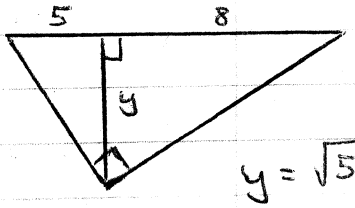


$x = \sqrt{4(9)}$

$x = \sqrt{36}$

$x = 6$

17.

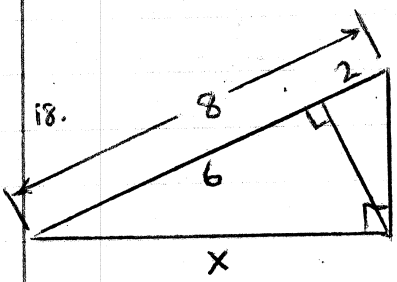


$y = \sqrt{5(8)}$

$y = \sqrt{40}$

$y = 6.3$

18.



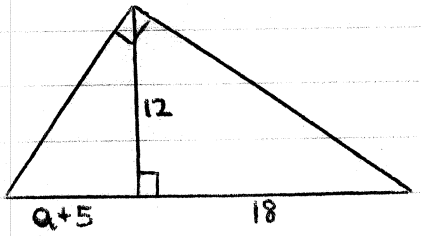
$x = \sqrt{6(8)}$

$x = \sqrt{48}$

$x = 6.9$

Find the value(s) of the variable(s).

21.



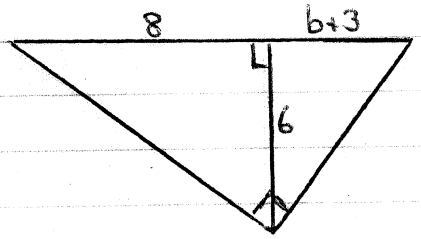
$12 = \sqrt{18(a+5)}$

$144 = 18a + 90$

$54 = 18a$

$3 = a$

22.



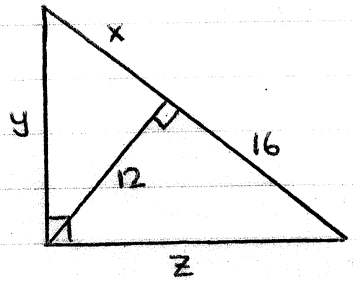
$6 = \sqrt{8(b+3)}$

$36 = 8b + 24$

$12 = 8b$

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

23.



$12 = \sqrt{16x}$

$144 = 16x$

$9 = x$

$y = \sqrt{9(9+16)}$

$y = \sqrt{9(25)}$

$y = \sqrt{225}$

$y = 15$

$z = \sqrt{16(16+9)}$

$z = \sqrt{16(25)}$

$z = \sqrt{400}$

$z = 20$