Geometry
Worksheet 8.1
Similar Right Triangles

Name _____
Date _____ Hour _____

Write the proportion. Then find the geometric mean of each pair of numbers. Leave all answers in simplest radical form.

1. 5 and 20

2. 4 and 8

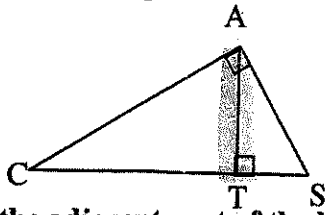
3. 3 and 15

4. 12 and 2

Use the right triangle on the right to complete the following.

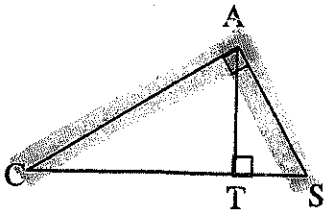
5. **The altitude to the hypotenuse is the geometric mean of the two segments of the hypotenuse.**

$\frac{\quad}{AT} = \frac{\quad}{\quad}$



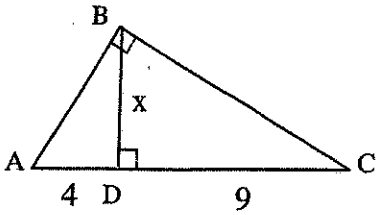
6. **The leg is the geometric mean between hypotenuse and the adjacent part of the hypotenuse**

$\frac{\quad}{CA} = \frac{\quad}{\quad}$ and $\frac{\quad}{AS} = \frac{\quad}{\quad}$



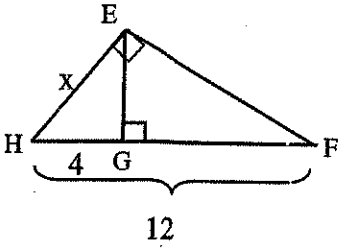
Find the value of each variable. Leave answers in simplest radical form. Show work!!!!

7.



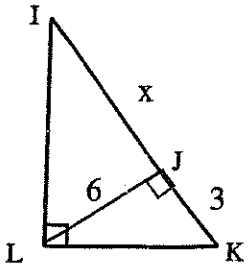
x = _____

8.



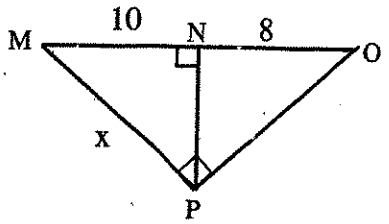
x = _____

9.



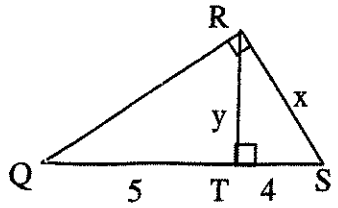
x = _____

10.



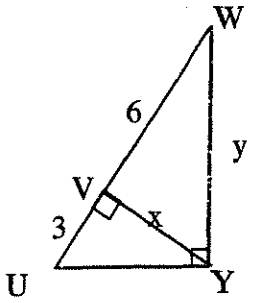
x = _____

11.



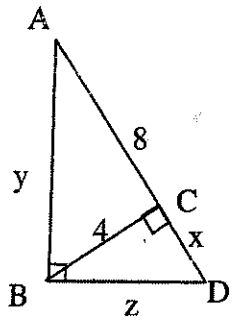
x = _____ y = _____

12.



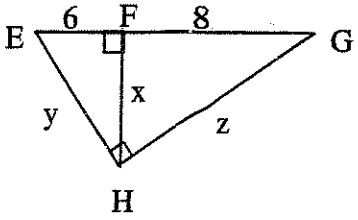
x = _____ y = _____

13.



x = _____ y = _____ z = _____

14.



x = _____ y = _____ z = _____

ANS BANK.(All answers will be used. Some answers may be used twice)

2, 6, 10, 12, $3\sqrt{2}$; $4\sqrt{2}$; $4\sqrt{3}$; $2\sqrt{5}$; $3\sqrt{5}$; $6\sqrt{5}$; $4\sqrt{5}$; $2\sqrt{6}$; $3\sqrt{6}$; $4\sqrt{7}$; $2\sqrt{21}$;