NO CALCULATOR!!

Name: _____

Homework Problems:

A. Simplify the following radicals:

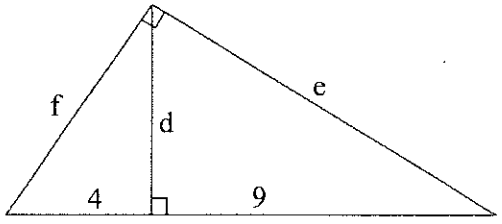
1. $\sqrt{12}$ 2. $\sqrt{75}$ 3. $3\sqrt{54}$

4. $\sqrt{\frac{3}{5}}$ 5. $\frac{\sqrt{8}}{\sqrt{6}}$ 6. $\frac{5}{\sqrt{15}}$

B. Find the arithmetic *and* geometric means for each pair of values:

7. $2, 50$ 8. $14, 49$ 9. $6x, 42x$ 10. $22, 55$

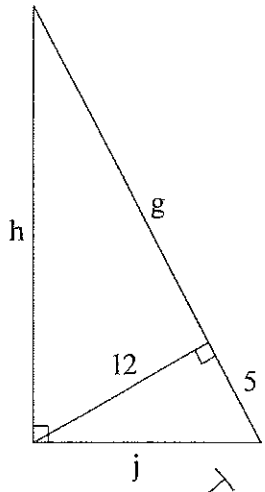
C. The figures below each show a right triangle with an altitude drawn to the hypotenuse. Determine the values for the variables in each figure.



$d =$ _____

$e =$ _____

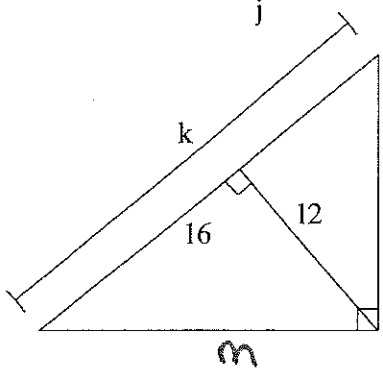
$f =$ _____



$g =$ _____

$h =$ _____

$j =$ _____



$k =$ _____

$m =$ _____

Geometric Mean

Period:_____ Name_____

Worksheet

Leave all answers in simplified radical form or decimal approximation to the nearest tenth.

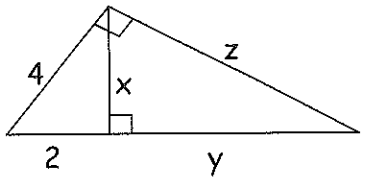
1. Find the geometric mean of 24 and 12.

2. Find the geometric mean of $3\sqrt{6}$ and $4\sqrt{6}$.

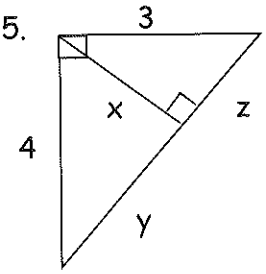
3. Find the geometric mean of $\frac{1}{2}$ and 100.

Solve for the missing variables. Leave all answers in simplified radical form or decimal approximation to the nearest tenth.

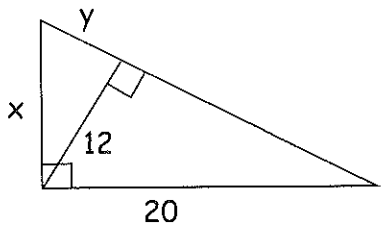
4.



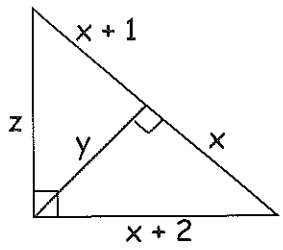
5.



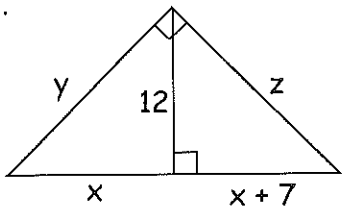
6.



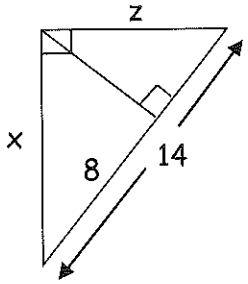
7.



8.



9.



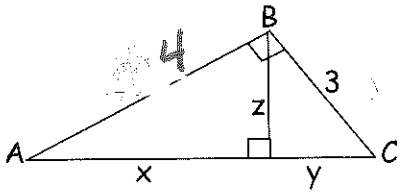
Solve for the indicated information.

10. Find x + y

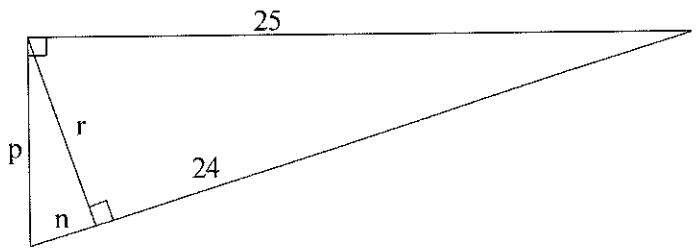
11. Find x

12. Find y

13. Find z



14.

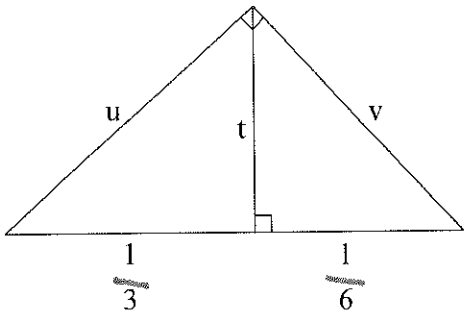


$n =$ _____

$p =$ _____

$r =$ _____

15.

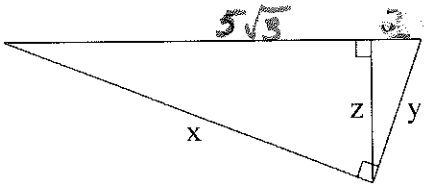


$t =$ _____

$u =$ _____

$v =$ _____

16.

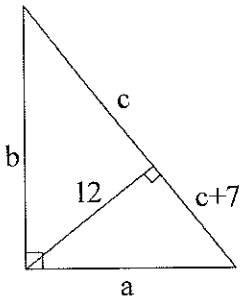


$x =$ _____

$y =$ _____

$z =$ _____

17.

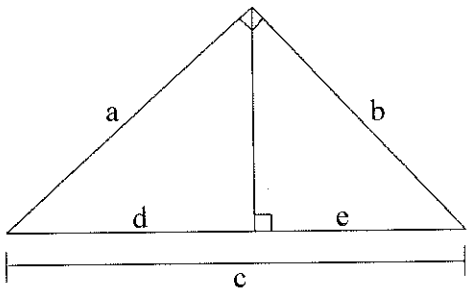


$a =$ _____

$b =$ _____

$c =$ _____

18. Use the figure at right and complete the following:



a. $a^2 =$ _____ and $b^2 =$ _____

b. Add the equations in part (a), factor the sum on the right. Remember that $c = d + e$.

c. What famous theorem have you just proved?