

Name _____ Date _____ Period _____

DIRECTIONS: For #1-3, find the geometric means of the given two numbers. SHOW WORK and use simplified radicals where necessary.

1. The geometric mean of 3 and 8 $2\sqrt{6}$

2. The geometric mean of 5 and 15 $5\sqrt{3}$

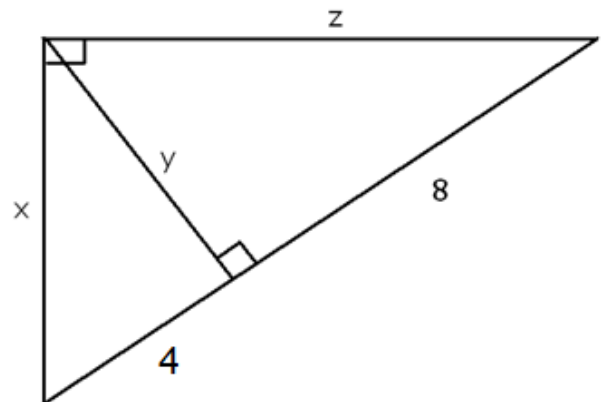
3. The geometric mean of $\frac{1}{3}$ and $\frac{3}{5}$ $\frac{\sqrt{5}}{5}$

DIRECTIONS: For #4-6, use the following diagram to solve for x , y , and z . SHOW WORK and use simplified radicals where necessary.

4. $x = 4\sqrt{3}$

5. $y = 4\sqrt{2}$

6. $z = 4\sqrt{6}$

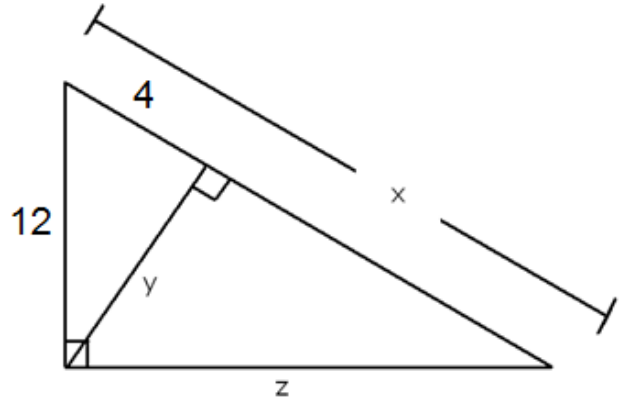


DIRECTIONS: For #7-9, use the following diagram to solve for x , y , and z . SHOW WORK and use simplified radicals where necessary.

7. $x = 36$

8. $y = 8\sqrt{2}$

9. $z = 24\sqrt{2}$



DIRECTIONS: For #10-12, use the following diagram and the Pythagorean Theorem to find the answer. SHOW WORK and use simplified radicals where necessary.

10. If $r = 15$ and $f = 8$, then

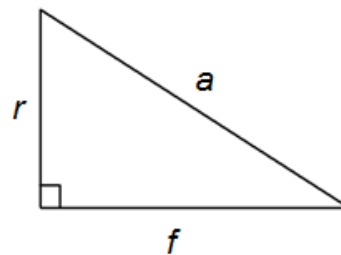
$a = 17$.

11. If $a = 5\sqrt{2}$ and $f = \sqrt{2}$, then

$r = 4\sqrt{3}$.

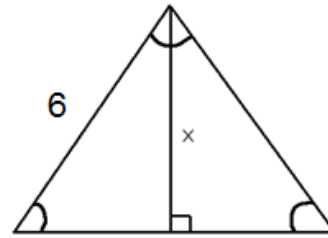
12. If $a = 14$ and $r = 7\sqrt{3}$, then

$f = 7$.

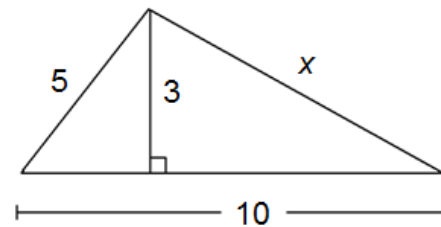


DIRECTIONS: For #13-14, solve for x . The Pythagorean Theorem will help. **SHOW WORK** and use simplified radicals where necessary.

13. $x = 3\sqrt{3}$



14. $x = 3\sqrt{5}$



DIRECTIONS: For #15-20, the lengths of three sides of a possible triangle are given. **SHOW WORK** to determine the kind of triangle that is formed with those lengths – your choices are **obtuse**, **acute**, **right**, or **none**.

| <u>Lengths of sides</u> | <u>Type of Δ formed</u> |
|-------------------------------|---|
| 15. $3, \sqrt{10}, 4$ | acute |
| 16. $3\sqrt{2}, 3\sqrt{2}, 6$ | right |
| 17. $7, 24, 25$ | right |
| 18. $4, 4, 5$ | acute |
| 19. $1, 2, 3$ | none |
| 20. $6, 10, 14$ | obtuse |