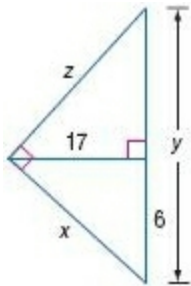


8-1 Geometric Mean

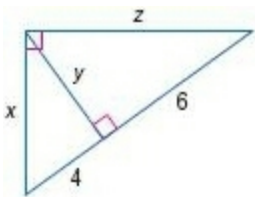
Write a similarity statement identifying the three similar triangles in the figure.



19.

ANSWER:

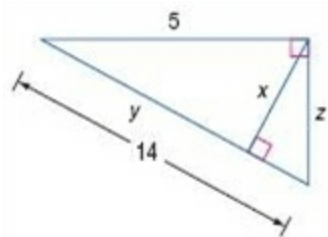
$$x = 5\sqrt{13} \approx 18.0; y = 54\frac{1}{6} \approx 54.2; z \approx 51.1$$



20.

ANSWER:

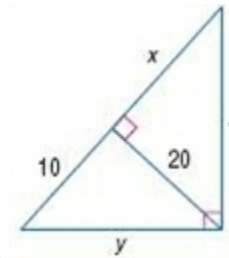
$$x = 2\sqrt{10} \approx 6.3; y = 2\sqrt{6} \approx 4.9; z = 2\sqrt{15} \approx 7.7$$



21.

ANSWER:

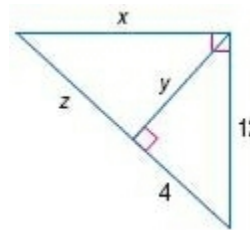
$$x \approx 4.7; y \approx 1.8; z \approx 13.1$$



22.

ANSWER:

$$x = 40; y = 10\sqrt{5} \approx 22.4; z = 20\sqrt{5} \approx 44.7$$



23.

ANSWER:

$$x = 24\sqrt{2} \approx 33.9; y = 8\sqrt{2} \approx 11.3; z = 32$$

8-1 Geometric Mean

24. **CCSS MODELING** Evelina is hanging silver stars from the gym ceiling using string for the homecoming dance. She wants the ends of the strings where the stars will be attached to be 7 feet from the floor. Use the diagram to determine how long she should make the strings.

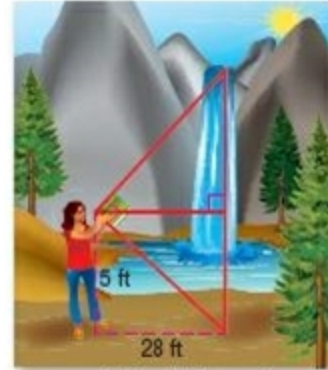


Note: Not drawn to scale.

ANSWER:

18 ft

25. **CCSS MODELING** Makayla is using a book to sight the top of a waterfall. Her eye level is 5 feet from the ground and she is a horizontal distance of 28 feet from the waterfall. Find the height of the waterfall to the nearest tenth of a foot.



Note: Not drawn to scale.

ANSWER:

161.8 ft

Find the geometric mean between each pair of numbers.

26. $\frac{1}{5}$ and 60

ANSWER:

$2\sqrt{3}$ or 3.5

27. $\frac{3\sqrt{2}}{7}$ and $\frac{5\sqrt{2}}{7}$

ANSWER:

$\frac{\sqrt{30}}{7}$ or 0.8

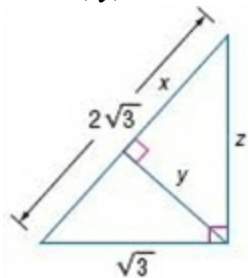
8-1 Geometric Mean

28. $\frac{3\sqrt{5}}{4}$ and $\frac{5\sqrt{5}}{4}$

ANSWER:

$\frac{5\sqrt{3}}{4}$ or 2.2

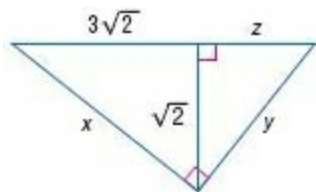
Find x , y , and z .



29.

ANSWER:

$x = \frac{3\sqrt{3}}{2} \approx 2.6$; $y = \frac{3}{2}$; $z = 3$



30.

ANSWER:

$x = 2\sqrt{5} \approx 4.5$; $y = \frac{2\sqrt{5}}{3} \approx 1.5$; $z = \frac{\sqrt{2}}{3} \approx 0.5$