

# 8-1 Skills Practice

## Geometric Mean

Find the geometric mean between each pair of numbers.

\* Don't forget  $\pm$  !

1. 5 and 10

$$\frac{5}{x} = \frac{x}{10}$$

$$x^2 = 50$$

$$x = \pm \sqrt{50}$$

$x = \pm 5\sqrt{2}$

2. 28 and 14

$$\frac{28}{x} = \frac{x}{14}$$

$$x^2 = 28 \cdot 14$$

$$x = \pm \sqrt{28 \cdot 14}$$

$x = \pm 14\sqrt{2}$

3. 7 and 36

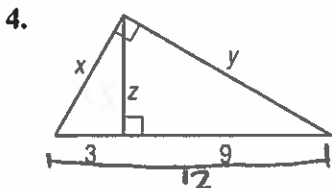
$$\frac{7}{x} = \frac{x}{36}$$

$$x^2 = 7 \cdot 36$$

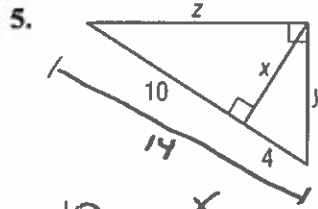
$$x = \pm \sqrt{7 \cdot 36}$$

$x = \pm 6\sqrt{7}$

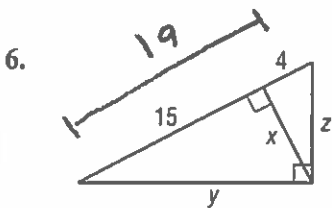
Find  $x$ ,  $y$  and  $z$ .



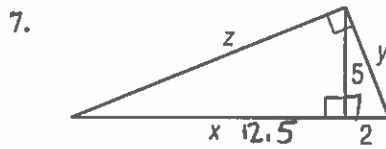
$\frac{3}{x} = \frac{x}{12}$	$\frac{9}{y} = \frac{y}{12}$	$\frac{3}{z} = \frac{z}{9}$
$x^2 = 36$	$y^2 = 108$	$z^2 = 27$
$x = 6$	$y = 6\sqrt{3}$	$z = 3\sqrt{3}$



$\frac{10}{x} = \frac{x}{4}$	$\frac{4}{y} = \frac{y}{14}$	$\frac{10}{z} = \frac{z}{14}$
$x^2 = 40$	$y^2 = 56$	$z^2 = 140$
$x = 2\sqrt{10}$	$y = 2\sqrt{14}$	$z = 2\sqrt{35}$



$\frac{15}{x} = \frac{x}{4}$	$\frac{15}{y} = \frac{y}{19}$	$\frac{4}{z} = \frac{z}{19}$
$x^2 = 60$	$y^2 = 285$	$z^2 = 76$
$x = 2\sqrt{15}$	$y = \sqrt{285}$	$z = 2\sqrt{19}$



$\frac{x}{5} = \frac{5}{2}$	$5^2 + 2^2 = y^2$	$\frac{12.5}{z} = \frac{z}{14.5}$
$2x = 25$	$25 + 4 = y^2$	$z^2 = 181.25$
$x = \frac{25}{2}$ or 12.5	$29 = y^2$	$z = \sqrt{181.25}$ $z \approx 13.46$