

## The Geometric Mean of Two Numbers

The **geometric mean** of  $a$  and  $b$  is the positive number  $x$  such that...

$$\frac{a}{x} = \frac{x}{b}$$

The **geometric mean** of  $a$  and  $b$  is square root of the product of  $a$  and  $b$ ...

Find the **geometric mean** between the following numbers

3 and 12

1 and 9

4 and 16

The **geometric mean** of  $a$  and  $b$  is square root of the product of  $a$  and  $b$ ...

$$x = \sqrt{a \cdot b}$$

Find the **geometric mean** between the following numbers

5 and 10

3 and 16

3 and 15

The **geometric mean** of  $a$  and  $b$  is square root of the product of  $a$  and  $b$ ...

$$x = \sqrt{a \cdot b}$$

The **geometric mean** of  $a$  and  $b$  is the positive number  $x$  such that...

The diagram illustrates the geometric mean relationship between three numbers:  $a$ ,  $x$ , and  $b$ . It features two overlapping orange diamond shapes. The top diamond contains  $a$  and  $x$ , while the bottom diamond contains  $x$  and  $b$ . The intersection of the two diamonds is the number  $x$ . Arrows point from labels to these numbers: a red arrow labeled 'extreme' points to  $a$ , a green arrow labeled 'mean' points to  $x$  in the top diamond, another green arrow labeled 'mean' points to  $x$  in the bottom diamond, and a blue arrow labeled 'extreme' points to  $b$ . Between the two diamonds, the equation  $\frac{a}{x} = \frac{x}{b}$  is written, with horizontal lines under  $a$  and  $b$ .

$$\frac{a}{x} = \frac{x}{b}$$

$$a \cdot b = x^2$$

$$\sqrt{a \cdot b} = x$$

The **geometric mean** of  $a$  and  $b$  is square root of the product of  $a$  and  $b$ ...

$$x = \sqrt{a \cdot b}$$

