

An example for inverse variation is as follows:

powered by
ExamView

Is the relationship between the variables in the table a direct variation, an inverse variation, or neither? If it is a direct or inverse variation, write a function to model it.

x	5	8	12	15
y	-25	-40	-60	-75

- inverse variation; $y = \frac{-125}{x}$
- direct variation; $y = -5x$
- neither

powered by
ExamView

Suppose that x and y vary inversely, and $x = 3$ when $y = 5$. Write the function that models the inverse variation.

- $y = \frac{8}{x}$
- $y = \frac{15}{x}$
- $y = 1.67x$
- $y = \frac{2}{x}$

powered by
ExamView

Suppose that m and r vary inversely and that $r = \frac{3}{10}$ when $m = 4$. Write a function that models the inverse variation and find r when $m = 4$.

- $r = \frac{3}{10m^2}; \frac{3}{10}$
- $r = \frac{3}{40m^2}; \frac{3}{160}$
- $r = \frac{3}{10m^2}; \frac{3}{10}$
- $r = \frac{6}{5m^2}; \frac{3}{10}$

A drama club is planning a bus trip to New York City to see a Broadway play. The table represents the cost per person for the bus rental compared to the number of people going on the trip. What function models the data, and how much per person will it cost if 12 students go on the trip?

Number of Students (n)	3	6	9	16
Cost per Student (c)	\$24	\$12	\$8	\$4.5

- a. $nc = 72$, \$6 c. $\frac{n}{c} = 9$, \$12
b. $nc = 9$, \$10 d. $\frac{n}{c} = 72$, \$12

Suppose that m and r vary inversely and that $r = \frac{1}{10}$ when $m = 3$. Write a function that models the inverse variation and find r when $m = 9$.

- a. $r = \frac{1}{10m^3}$; $\frac{1}{30}$ c. $r = \frac{3}{10m^3}$; $\frac{1}{30}$
b. $r = \frac{1}{30m^3}$; $\frac{1}{90}$ d. $r = \frac{1}{10m^3}$; $\frac{1}{10}$

Suppose that a and b vary inversely and that $b = \frac{8}{5}$ when $a = 2$. Write a function that models the inverse variation and find b when $a = 2$.

- a. $b = \frac{8}{5a}$; $\frac{8}{5}$ c. $b = \frac{16}{5a}$; $\frac{8}{5}$
b. $b = \frac{8}{5a}$; $\frac{8}{5}$ d. $b = \frac{4}{5a}$; $\frac{2}{5}$

Suppose that x and y vary inversely, and $x = 3$ when $y = 12$. Write the function that models the inverse variation.

- a. $y = \frac{15}{x}$ c. $y = \frac{36}{x}$
b. $y = \frac{9}{x}$ d. $y = 4x$