



Why Did the Painter Go On a Safari?

Gross out the letters above each answer. When you finish, the remaining letters will spell out the answer to the little question.

In Exercises 1-9, write an equation expressing inverse variation.

- y varies inversely with x , and $y = 16$ when $x = 3$.
- y varies inversely with x , and $y = 75$ when $x = 12$.
- y is inversely proportional to x , and $y = 4.4$ when $x = 90$.
- y varies inversely with x , and $y = 5.6$ when $x = 0.8$.
- y is inversely proportional to x , and $y = 2.9$ when $x = 170$.
- y varies inversely as x , and $y = 6.25$ when $x = 0.16$.
- The time, t , it takes to travel a certain distance varies inversely with the speed, r . Suppose $t = 3.5$ h when $r = 60$ mph.
- The force, F , needed to lift an object with a crowbar varies inversely with the length, L , of the crowbar. Suppose $F = 90$ lb when $L = 15$ in.
- The number of chairs, y , on a ski lift is inversely proportional to the distance, x , between them. Suppose $y = 72$ when $x = 40$ m.

TH $y = \frac{396}{x}$	HE $y = \frac{3.8}{x}$	LP $F = \frac{1350}{L}$	AT $y = \frac{48}{x}$	WA $t = \frac{195}{r}$	LK $y = \frac{1}{x}$	SO $y = \frac{4.48}{x}$	WE $y = \frac{2880}{x}$	NT $y = \frac{960}{x}$	ON $y = \frac{900}{x}$	NE $t = \frac{210}{r}$	ED $y = \frac{2}{x}$	UP $y = \frac{493}{x}$	TO $F = \frac{875}{L}$
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In Exercises 10-13, write an equation expressing inverse variation, then solve the problem. Cross out BOTH the equation and the solution.

- For rectangles with the same area, the length, ℓ , varies inversely with the width, w . Suppose a rectangle has a length of 105 ft and a width of 60 ft. Find the length of another rectangle with the same area whose width is 75 ft.
- The current in an electrical circuit, I , varies inversely as the amount of resistance in the circuit, R . Suppose the current is 15 amps when the resistance is 24 ohms. Find the current when the resistance is 40 ohms.
- The time required to fill a swimming pool, t , varies inversely with the rate of water flow, r . Suppose it takes 96 minutes to fill the pool when the flow rate is 18 gallons per minute. How long will it take to fill the pool if the flow rate is 24 gallons per minute?
- For piano strings under the same tension, the number of vibrations per second, f , is inversely proportional to the length of the string, L . Suppose a string that is 29.5 cm long vibrates 440 times per second. How long is a string that vibrates 264 times per second?

QU 9 amps	SP $I = \frac{320}{R}$	IT $\ell = \frac{6300}{w}$	IN 72 min	OT 8 amps	LE 74 min	FT $t = \frac{1728}{r}$	ST $f = \frac{12,980}{L}$	OP 45.8 cm	AF $I = \frac{360}{R}$	AR 92 ft	KI 49.2 cm	DS $\ell = \frac{5400}{w}$	SS 84 ft
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