

NAME _____

DATE _____

Practice

Sec. 3.6/11.1

Student Edition

Pages 230-244

Direct and Inverse Variation*Solve. Assume that y varies directly as x.*

1. If $y = -4$ when $x = 2$, find y when $x = -6$.
2. If $y = 16$ when $x = 4$, find y when $x = 6$.
3. If $y = -5$ when $x = 12.5$, find x when $y = 15$.
4. If $y = 7$ when $x = 4$, find y when $x = 12$.
5. If $y = 80$ when $x = 32$, find x when $y = 100$.
6. If $y = 198$ when $x = 22$, find y when $x = 182$.
7. If $y = 28$ when $x = 168$, find y when $x = 108$.
8. If $y = 24$ when $x = 6$, find y when $x = -4$.

Solve. Assume that y varies inversely as x.

9. If $y = -4$ when $x = 2$, find y when $x = -6$.
10. If $y = 16$ when $x = 4$, find y when $x = 6$.
11. If $y = -5$ when $x = 12.5$, find x when $y = 15$.
12. If $y = 7$ when $x = 4$, find y when $x = 12$.
13. If $y = 27$ when $x = 12$, find x when $y = -12$.
14. If $y = 6$ when $x = -4$, find x when $y = \frac{12}{5}$.
15. If $y = 60$ when $x = 80$, find x when $y = -20$.
16. If $y = 40$ when $x = 16$, find y when $x = 10$.

17

Julio's wages vary directly as the number of hours that he works. If his wages for 5 hours are \$29.75, how much will they be for 30 hours?

18

The length of a violin string varies inversely as the frequency of its vibrations. A violin string 10 inches long vibrates at a frequency of 512 cycles per second. Find the frequency of an 8-inch string.

19

Space The weight of an object on the moon varies directly as its weight on Earth. With all of his gear on, Neil Armstrong weighed 360 pounds on Earth. When he became the first person to step on the moon on July 20, 1969, he weighed 60 pounds. Tara weighs 108 pounds on Earth. What would she weigh on the moon?

20

Music The pitch of a musical tone varies inversely as its wavelength. If one tone has a pitch of 440 vibrations per second and a wavelength of 2.4 feet, find the wavelength of a tone that has a pitch of 660 vibrations per second.