9-4 Skills Practice

Direct, Joint, and Inverse Variation

State whether each equation represents a *direct*, *joint*, or *inverse* variation. Then name the constant of variation.

1. $c = 12m$

2. $p = \dfrac{4}{q}$

3. $A = \dfrac{1}{2}bh$

4. $me = 15$

5. $y = 2rst$

6. $f = 5280m$

7. $y = 0.2s$

8. $vz = -25$

9. $t = 16rh$

10. $R = \dfrac{8}{w}$

11. $\dfrac{a}{b} = \dfrac{1}{3}$

12. $C = 2\pi r$

Find each value.

13. If y varies directly as x and $y = 35$ when $x = 7$, find y when $x = 11$.

14. If y varies directly as x and $y = 360$ when $x = 180$, find y when $x = 270$.

15. If y varies directly as x and $y = 540$ when $x = 10$, find x when $y = 1080$.

16. If y varies directly as x and $y = 12$ when $x = 72$, find x when $y = 9$.

17. If y varies jointly as x and z and $y = 18$ when $x = 2$ and $z = 3$, find y when $x = 5$ and $z = 6$.

18. If y varies jointly as x and z and $y = -16$ when $x = 4$ and $z = 2$, find y when $x = -1$ and $z = 7$.

19. If y varies jointly as x and z and $y = 120$ when $x = 4$ and $z = 6$, find y when $x = 3$ and $z = 2$.

20. If y varies inversely as x and $y = 2$ when $x = 2$, find y when $x = 1$.

21. If y varies inversely as x and $y = 6$ when $x = 5$, find y when $x = 10$.

22. If y varies inversely as x and $y = 3$ when $x = 14$, find x when $y = 6$.

23. If y varies inversely as x and $y = 27$ when $x = 2$, find x when $y = 9$.

24. If y varies directly as x and $y = -15$ when $x = 5$, find x when $y = -36$.

Lesson 9-4