## Assignment

Page 48 \#13-15, 22-27, 44-46, and 58-61

Use the vertical-line test to determine whether each relation is a function. If not, identify two points a vertical line would pass through.
13.

14.

15.


Give the domain and range of each relation. Then explain whether the relation is a function.
22.

24. $\{(7,1),(7,2),(7,3),(7,4),(7,6)\}$
26.

| $x$ | 3 | 0 | 0 | -1 | -3 |
| ---: | ---: | ---: | ---: | ---: | ---: |
| $y$ | -4 | -3 | -1 | -2 | 0 |

23. 


25. $\{(9,3),(7,3),(5,3),(3,3),(1,3)\}$
27.

| $x$ | 7 | 6 | 5 | 4 | 3 |
| ---: | ---: | ---: | ---: | ---: | ---: |
| $y$ | -1 | 2 | -1 | 2 | 3 |

Simplify each expression. Assume all variables are nonzero. (Lesson 1-5)
58. $\left(-3 y^{4}\right)^{3}$ 59. $\frac{\left(10 w^{2}\right)^{2}}{5 w^{5}} \quad$ 60. $\left(4 c^{6} d^{2}\right)^{2} \quad$ 61. $\left(\frac{x^{3}}{z}\right)^{7}$

