



## Exercise set (0.2)

**Exercise set 0.2:**

27, 28, 29 (a, b, c, f), 30 (b, c, g), 31, 32, 34, 35, 41, 42, 43, 44, 59 (a, b, e, f) p.25-26.









**29.** Let  $f(x) = \sqrt{x}$  and  $g(x) = x^3 + 1$ . Find

(a)  $f(g(2))$  \_\_\_\_\_

(b)  $g(f(4))$  \_\_\_\_\_

(c)  $f(f(16))$  \_\_\_\_\_

(f)  $g(3 + h)$ . \_\_\_\_\_

**30.** Let  $g(x) = \sqrt{x}$ . Find

(b)  $g(\sqrt{x} + 2)$

(c)  $3g(5x)$

(g)  $g(1/\sqrt{x})$











**35–40** Express  $f$  as a composition of two functions; that is, find  $g$  and  $h$  such that  $f = g \circ h$ . [Note: Each exercise has more than one solution.] ■

35. (a)  $f(x) = \sqrt{x+2}$

(b)  $f(x) = |x^2 - 3x + 5|$

**41–44 True–False** Determine whether the statement is true or false. Explain your answer. ■

**41.** The domain of  $f + g$  is the intersection of the domains of  $f$  and  $g$ .

**42.** The domain of  $f \circ g$  consists of all values of  $x$  in the domain of  $g$  for which  $g(x) \neq 0$ .

**43.** The graph of an even function is symmetric about the  $y$ -axis.

**44.** The graph of  $y = f(x + 2) + 3$  is obtained by translating the graph of  $y = f(x)$  right 2 units and up 3 units.

59. In each part, classify the function as even, odd, or neither.

(a)  $f(x) = x^2$

(b)  $f(x) = x^3$

(e)  $f(x) = \frac{x^5 - x}{1 + x^2}$

(f)  $f(x) = 2$