

Sec 2.1.2  
Evaluating Functions

Given  $f(x) = x^2 + 3x + 5$

Determine  $f(2)$

$$= 2^2 + 3(2) + 5$$
$$= 15$$

$f(x+3)$

$f(-x)$

$$= (-x)^2 + 3(-x) + 5$$
$$= x^2 - 3x + 5$$

$$= (x+3)^2 + 3(x+3) + 5$$

$$= x^2 + 6x + 9 + 3x + 9 + 5$$

$$= x^2 + 9x + 23$$

Evaluate  $f(x) = \frac{4x^3 + 1}{x^3}$  at  $x = 2 \rightarrow \frac{4(2)^3 + 1}{2^3}$   
 $= 33/8$

at  $x = -x$

$$= \frac{4(-x)^3 + 1}{(-x)^3} = \text{ok } \frac{-4x^3 + 1}{-x^3}$$

$$= -\frac{(4x^3 - 1)}{-x^3}$$

better  $= \frac{4x^3 - 1}{x^3}$

Given  $f(x) = x^3 - x + 1$  determine  $f(3a)$

$$= (3a)^3 - 3a + 1$$

$$= 27a^3 - 3a + 1$$

The function  $G(x) = -.01x^2 + x + 60$  models the wage gap, as a percent,  $x$  years after 1980.

Find and interpret  $G(30)$ .

$$= -.01(30)^2 + 30 + 60$$

$$= 81\%$$

$$\begin{array}{r} 1980 \\ + 30 \\ \hline 2010 \end{array}$$

\*wage gap is used to compare the status of women's earnings relative to men's.

answer- 81% ...in 2010, women made 81% of what men earned

## Suggested Practice

Sec 2.1

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27-37 odds

104a

27. a. 29

b.  $4x+9$

c.  $-4x+5$

29. a. 2

b.  $x^2+12x+38$

c.  $x^2-2x+3$

31. a. 13

b. 1

c.  $x^4-x^2+1$

d.  $81a^4-9a^2+1$

33. a. 3

b. 7

c.  $\sqrt{x}+3$

35.

a.  $15/4$

b.  $15/4$

c.  $\frac{4x^2 - 1}{x^2}$

37. a. 1

b. -1

c. 1

104a.

$$G(10) = 69$$

women earn 69% what  
men do in 1990 (supposedly) 😊