Math on the Fly!

NAME: _____ DATE: _____

Evaluating and Plugging into Functions

Evaluate and find each function value.

1. $f(x) = -x^2 + 2x - 1$

a. Find f(–3)
b. Find f(1)
c. Find f(a)

2. $f(x) = \frac{1}{x} + x$

a. Find f(1/2)
b. Find f(2)
c. Find f(m)

3. $f(x) = \sqrt{x + 10}$

a. Find f(–1)
b. Find f(6)
c. Find f(x – 2)

4. $f(x) = -x - 5$

a. Find f(–7)
b. Find f(5)
c. Find f(x + 1)

5. $f(x) = 3^{x+3}$

a. Find f(–4)
b. Find f(–3)
c. Find f(1)

6. $f(x) = 2x + 7$

a. Find f(4x)
b. Find f(x + 4)
c. Find f(4 – x)

7. $f(x) = |1 - 6x|$

a. Find f(–1.5)
b. Find f(2/3)
c. Find f(3x)
d. Find f(x – 1)

8. $f(x) = 2x^2 - 3x + 4$

a. Find f(–1)
b. Find f(2)
c. Find f(–x)
d. Find f(2x)

SOLUTIONS

1. a. $f(-3) = -16$
b. $f(1) = 0$
c. $f(a) = -a^2 + 2a - 1$

2. a. $f(1/2) = 5/2$ or 2.5
b. $f(2) = 5/2$ or 2.5
c. $f(m) = \frac{1}{m} + m$

3. a. $f(-1) = 3$
b. $f(6) = 4$
c. $f(x - 2) = \sqrt{x - 2 + 10}$
$= \sqrt{x + 8}$

4. a. $f(-7) = 2$
b. $f(5) = -10$
c. $f(x + 1) = -(x + 1) - 5$
$= -x - 6$

5. a. $f(-4) = 3^{-1} = 1/3$
b. $f(-3) = 3^0 = 1$
c. $f(1) = 3^4 = 81$

6. a. $f(4x) = 2(4x) + 7$
$= 8x + 7$
b. $f(x + 4) = 2(x + 4) + 7$
$= 2x + 15$
c. $f(4 - x) = 2(4 - x) + 7$
$= -2x + 15$
or
$= 15 - 2x$

7. a. $f(-1.5) = 10$
b. $f(2/3) = 3$
c. $f(3x) = |1 - 6(3x)|$
$= |1 - 18x|$
d. $f(x - 1) = |1 - 6(x - 1)|$
$= |-6x + 7|$
or
$= |7 - 6x|$

8. a. $f(-1) = 9$
b. $f(2) = 6$
c. $f(-x) = 2(-x)^2 - 3(-x) + 4$
$= 2x^2 + 3x + 4$
d. $f(2x) = 2(2x)^2 - 3(2x) + 4$
$= 8x^2 - 6x + 4$