## 2.1 Function Notation

Find the value of y for the function

Function Notation:

Another way to write out (x, y) coordinates:

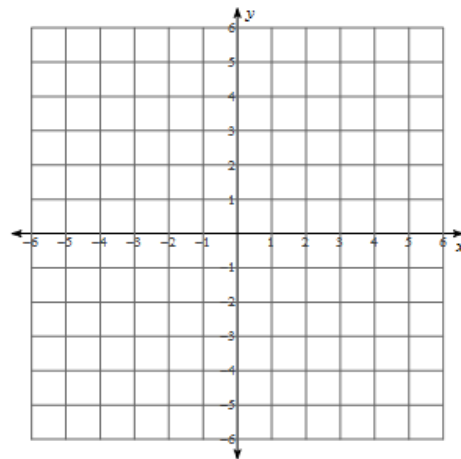Be sure to express your answers in function notation!

Find f(-4) for f(x) =

Ex1:                                                    Ex 2:
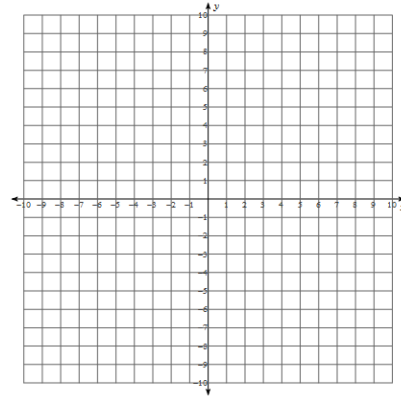
Ex 3: g(x) =

| X | g(x) |
|---|------|
|   |      |
|   |      |
|   |      |

But that's not all!

f(x) =

Ex 4:                                    Ex 5:

Ex 6  f(x) =

| X | g(x) |
|---|------|
|   |      |
|   |      |
|   |      |

Try these homeslice!
1)                                              2)

Summary:

---

2.1 Practice Problems

| Directions: Convert from a (x, y) coordinate point to function notation. | | | |
|---|---|---|---|
| 1) (3, -4) | 2) (-5, 6) | 3) (0, 5) | 4) (-6, 0) |

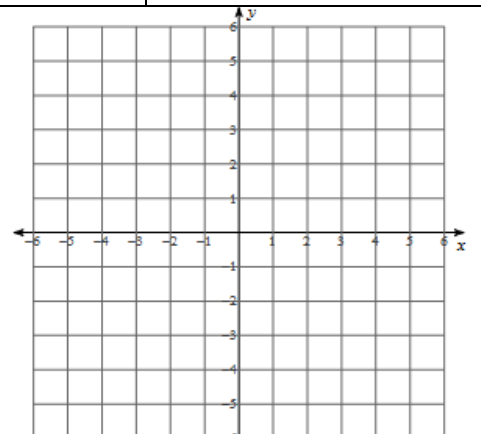5) Directions:  Plot each point.  Label with each letter.
A – f(2) = 5
B – f(0) = -4
C – f(-2) = 0
D – f(3) = -2
E – f(-2) = -1
F – f(4) = 1

Directions: Evaluate or find the solution.  Express your answer in function notation.

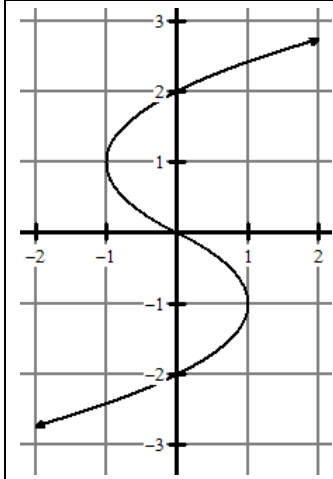| 6) $g(x) = -2x + 5$; $Find\ g(-5)$ | 7) $h(z) = |-z - 3| + 1$; $Find\ h(z) = 3$ | 8) $b(n) = 2n^3 - 4$; $find\ b(-4)$ |
|---|---|---|
| 9) f(x) = 2x - 5; Find f(x) = -3 | 10) $g(u) = u^2 - 5u$; $Find\ g(u) = 104$ | 11) $j(x) = -3\sqrt{3x}$; $Find\ j(30)$ |
| 12) $h(n) = 3|2n - 15| + 1$; $Find\ h(4)$ | 13) $f(x) = 2x^2 - 3x + 4$; $Find\ f(-3)$ | 14) $b(n) = -2|n - 2|$; $Find\ b(n) = -44$ |
| 15) $h(x) = \frac{2x-5}{3x}$; $Find\ h(-5)$ | 16) $f(m) = m^2 + 17m$; $Find\ f(m) = -60$ | 17) $f(l) = 2\sqrt{3l} + 3\sqrt{4l}$; $Find\ f(27)$ |

| | 3) Simplify: $2\sqrt{48}$ | 5) Solve: $\frac{45}{3x} + 25 = 28$ |
|---|---|---|
|  1) Find the y-interecept(s) 2) Find the x-intercept(s) | 4) Simplify: $-4\sqrt{72}$ | 6) Factor: $x^2 - 10x - 56$ |

2.1 Application and Extensions

1) $g(x) = 3|x - 4| + 6; find\ g(x) = 18$         2) $a(n) = 6\sqrt{8n}; Find\ a(12)$

3) HEAT IT TO BEAT IT…the annual race/walk to raise funds support peritoneal carcinomatosis (abdominal cancers) awareness, education and research is again being held this fall.  Three sisters are so grateful to the doctors running the event  (and just a bit competitive) that they decide to see who can raise the most funds for the event next year.  Each sister comes up with a function that they believe models how much they will be able to raise in terms of m (months).  (For more information go to: www.heat-it.org)

Sister A: A(m) = 3.25m² + 15.36m + 1.25.         Sister B: B(m) = $21.5\sqrt{62.6m} + 25.36$
Sister J: J(m) = $|139.7m + 9.6| + 110.25$.

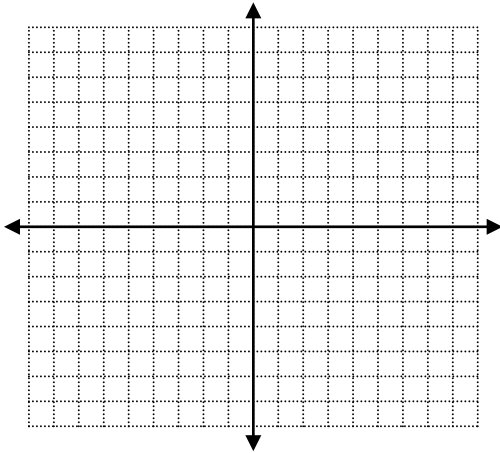a) Who starts off with the most money raised? How much do they each have?

b) How much money have they each raised after six months? Who has the most raised?

c) How much money have they each raised after one year? Who has the most raised?

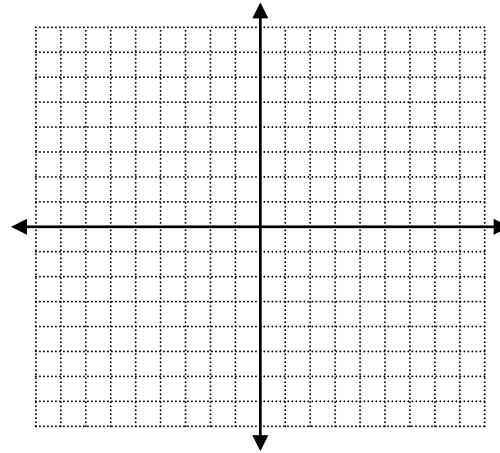DIRECTIONS:  For each function, complete the table and graph it.

4) G(x) = $x^2$ – 2x

| X | G(x) |
|---|---|
| -2 | |
| | 8 |
| | 8 |
| 0 | |
| | -1 |

6) H(x) = $2|x + 2| - 3$

| X | H(x) |
|---|---|
| -8 | |
| | -3 |
| | 3 |
| | 3 |
| 3 | |





**SAT PREP**  Below are sample SAT questions.  The SAT is the main standardized test that colleges look at for admission.  One is multiple choices; the other is free response where you must grid in your answer.  Blow it up.

| MULITPLE CHOICE | GRID IN |
|---|---|
| For which value of the following functions is f(2) < f(0.5)? | If f(x) = $3x^3$ – 4x, what is the value of f(-1)? |

(A)  f(x) = $2x^2$
(B)  f(x) = 2
(C)  f(x) = $\frac{2}{x}$
(D)  f(x) = 2 + $x^3$
(E)  f(x) = $x^4$ + 2