

Name:

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# HOMEWORK 5.4

Secondary Math II

**Turned in  
On Time**  
(4 pts.)

0A. (2 pts.) Find the solutions.  $2x^2 - x + 4 = 1$

0B. (2 pts.) Find the solutions.  $(x-3)^2 - 5 = 4$

## Review

1. (1 pt.) Graph the function  $f(x) = 3x^2 - 2$  on your calculator and give the domain and range in interval notation.

2. (1 pt.) Multiply.  $(x-3)(2x+7)$

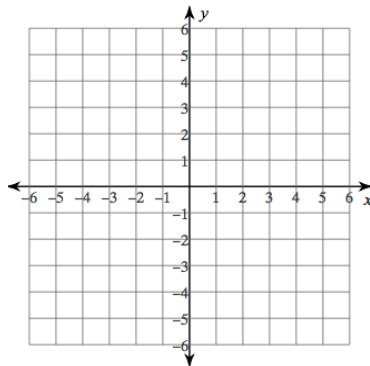
$$2x^2 + x - 21$$

3. (1 pt.) Rewrite in factored form.  $2x^2 - x - 1$

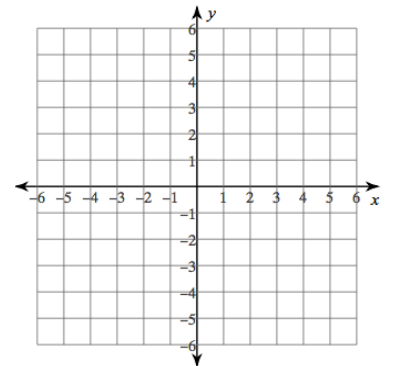
Graph the function  $f(x) = -x^2 + 4$  on your calculator and then graph the function again below with the following restricted domains.

**Classroom Exercise #4**  
(4 pts.)

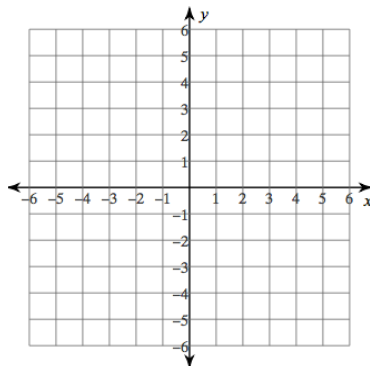
4A. (1 pt.)  $D = \{x \mid 0 \leq x\}$



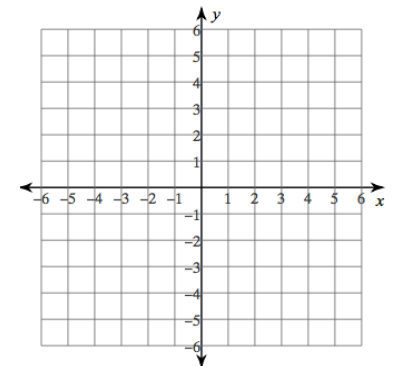
4B. (1 pt.)  $D = [-2, 2]$



4C. (1 pt.)  $D = \{-2, -1, 0, 1, 2\}$



4D. (1 pt.)  $D = (-\infty, -2) \cup (2, \infty)$



From the scenarios below, restrict the domain to provide the most accurate representation.

**Classroom Exercise #5**

(3 pts.)

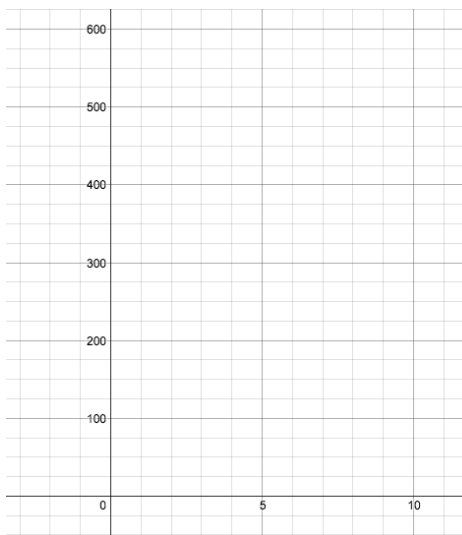
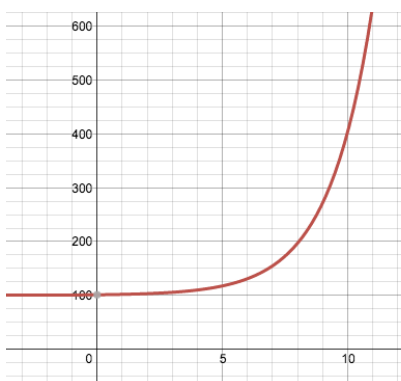


5A. (1 pt.) A ball is kicked into the air and then lands on the ground 2 seconds later.  $f(x) = -16t^2 + 32x$  calculates the height of the ball after  $t$  seconds.  
 $D = [0, 2]$

5B. (1 pt.) Sarah pays a flat monthly membership fee of \$30 to exercise at a gym. Each yoga class she takes she pays an extra \$5.  $f(x) = 5x + 30$  gives the monthly price for the gym as a function of  $x$  classes.

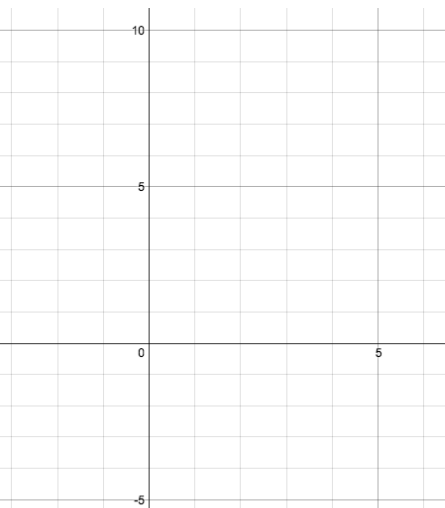
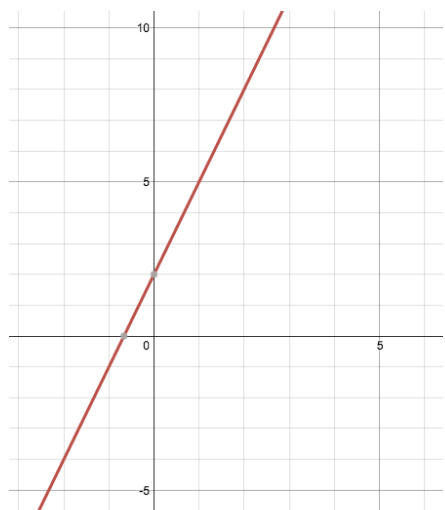
5C. (1 pt.) A cellphone is dropped and hits the ground after .25 seconds.  $f(x) = -16x^2 + 1$  gives the height of the cellphone after  $t$  seconds have passed.

6. (1 pt.) The function  $f(x) = 2^x + 100$  is modeled below. Graph the function with the restricted domain  $D = (-\infty, 5) \cup (5, \infty)$



This graph would like exactly the same except an open circle at  $x=5$

7. (1 pt.) The function  $f(x) = 3x + 2$  is shown below. Graph the function with the restricted domain  $D = [0, 1]$ .



8. (1 pt.) The function  $f(x) = -x^2 - x + 6$  is shown below. Graph the function with the restricted domain  $D = \{-3, -2, -1, 0, 1, 2\}$

