Name: _____ Period:_____ Date:_____

2.2 Practice Problems

Find the domain and range for the following relation.

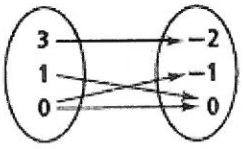
1. {(-3, -7), (-1, -3), (0, -1), (2, 3), (4, 7)}

Determine whether each of the following relations/graphs is a function.

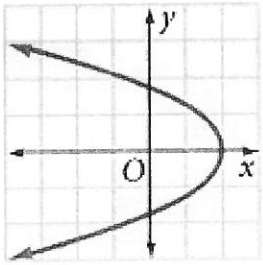
2. {(0, 0), (1, 1), (4, 2), (1, -1)}

3. $\left\{(-4,-3),(-2,-2),(0,-1),\left(1,-\frac{1}{2}\right)\right\}$

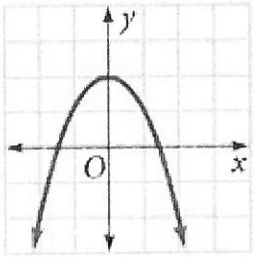
4.



5.



6.



7. A store bought a case of disposable cameras for $300. The stores profit p on the cameras is a function of the number c of cameras sold. Find the range of the function $p = 6c - 300$, when the domain is $\{0,15,50,62\}$.

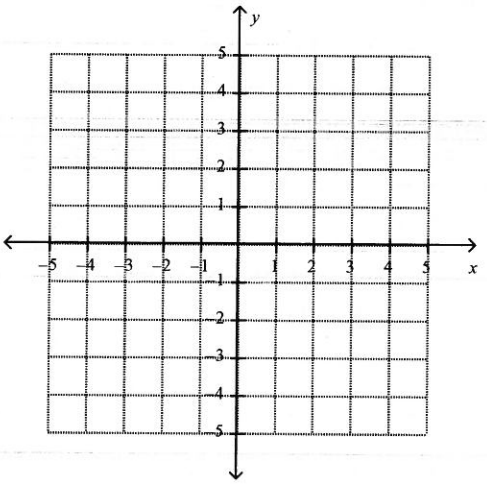
Find the difference quotient $\frac{f(x+h)-f(x)}{h}$ for each function.

8. $f(x) = x^2+5x+6$

9. $f(x) = 2x^2-7x+11$

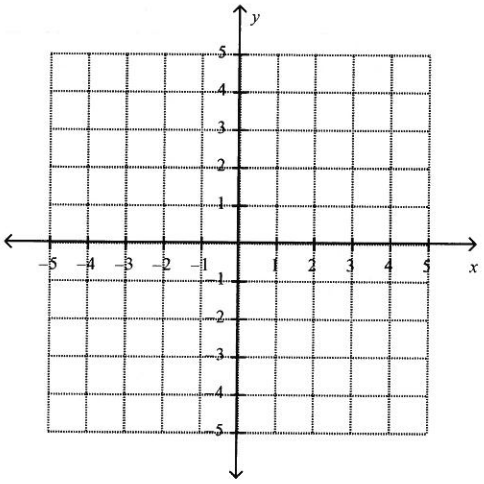
10. Graph the piecewise function f(x).

$$f(x)=\begin{cases}-3x-10 & x<-2\\ -4 & -2<x<2\\ |x-3| & 2\le x\end{cases}$$



11. Graph the piecewise function f(x).

$$f(x)=\begin{cases}-(x+3)^2+4 & x<-1\\ 2x & -1<x<2\\ 4-\sqrt{x-2} & 2\le x\end{cases}$$



12. Given the function $s(t) = -16t^2+10t+9$, evaluate:

a. s(-1)

d. c. s(t+2)

b. s(2)

e. s(2t - 3)

13. Find the domain of g(x).

a. $g(x) = \dfrac{x-1}{x+1}$

b. $g(x) = \sqrt{2-x}$