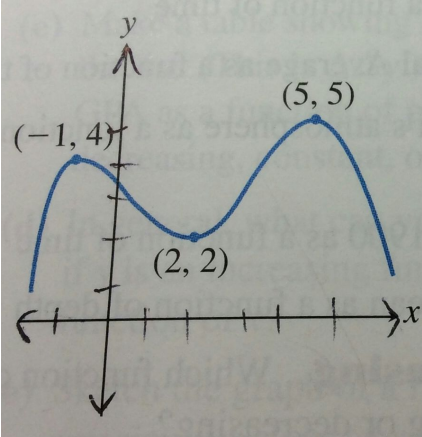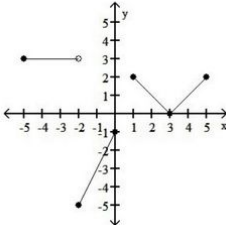| A2.1b Domain & Range of Functions	Name
1. Find the Domain of the Function. Write your answer in interval notation: $f(x) = \sqrt{x-5}$	2. Find the Domain of the Function. Write your answer in interval notation: $f(x) = \frac{x}{x+1}$
3. Find the Domain of the Function. Write your answer in interval notation: $f(x) = \sqrt{3x - 2x^2}$	4. Find the Domain of the Function. Write your answer in interval notation: $f(x) = 3 - 5x + 4x^2$
5. Find the Domain of the Function. Write your answer in interval notation: $f(x) = \frac{4}{2-5x}$	6. Find the Domain of the Function. Write your answer in interval notation: $f(x) = \sqrt{2x - 7}$
7. Find the Domain & Range of the Graph Below: 	8. Find the Domain & Range of the Graph Below:
9. Find the Domain of the Function. Write your answer in interval notation: $f(x) = \frac{x+2}{x^2-1}$	10. Find the Domain of the Function. Write your answer in interval notation: $f(x) = \sqrt{x^2 - 9}$
11. Find the net change in the value of the function between the given inputs. $f(x) = 4 - 5x$; from 3 to 5.	12. Find the net change in the value of the function between the given inputs. $f(x) = 1 - t^2$; from -2 to 5.

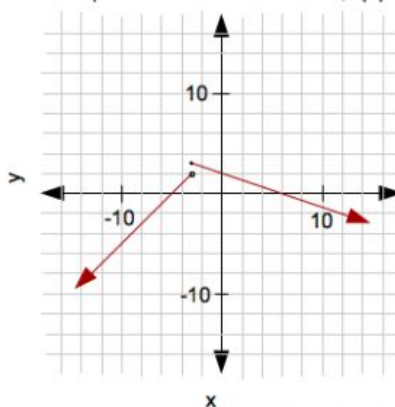|	
13. Find $f(a)$, $f(a + h)$, *and the difference quotient* $\dfrac{f(a+h) - f(a)}{h}$, where $h \neq 0$. $f(x) = 6x - 7$	14. Find $f(a)$, $f(a + h)$, *and the difference quotient* $\dfrac{f(a+h) - f(a)}{h}$, where $h \neq 0$. $f(x) = \dfrac{2x}{x-1}$
15. Evaluate the piecewise function at the indicated values. $$f(x) = \begin{cases} 2, & \text{if } x \leq -2 \\ 4 - x, & \text{if } x > -2 \end{cases}$$ f(-7)= f(-2)= f(-1)= f(3)=	16. The cost C in dollars of producing x yards of a certain fabric is given by the function $C(x) = 1500 + 3x + 0.02x^2 + .00001x^3$ a. Find C(10) and C(100) b. What do your answers in part (a) represent? c. Find C(0). What does this represent?
17. The surface area of a sphere S is a function of its radius r given by: $S = 4\pi r^2$ a. Find S(2) b. and S(3). c. What do your answers represent? 19. Evaluate the function for the indicated Values: make sure your answer is reduced. $h(x) = x - \dfrac{6}{x}$ $h(-1) =$ $h(2) =$ $h(\frac{1}{2}) =$ $h(x - 1) =$ $h(\frac{1}{x}) =$	18. Complete the table: Graph of Piecewise Function, f(x) $$f(x) = \begin{cases} x+5, & x<-3 \\ \dfrac{-1}{3}x+2, & x \geq -3 \end{cases}$$ | X	f(x)
-5	
-3	
-1	
3		