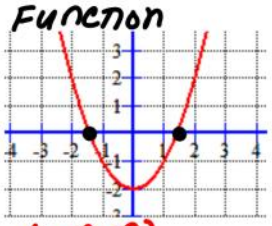
Thursday, September 27, 2018
3:44 PM

KEY

PRECALCULUS **Section 1.5: FUNCTIONS (Day 3) – CLASSWORK**

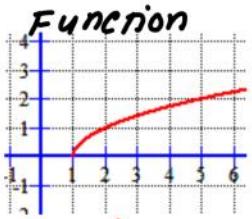
Determine a) if the graph represents the graph of a function
b) domain c) range d) zeros

1. 

D: $(-\infty,\infty)$

R: $[-2,\infty)$

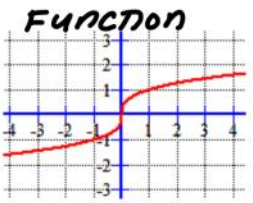
Zeros: $\{-1.5, 1.5\}$

2. 

D: $[1,\infty)$

R: $[0,\infty)$

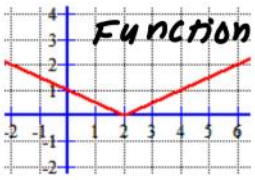
Zeros: $x = 1$

3. 

D: $(-\infty,\infty)$

R: $(-\infty,\infty)$

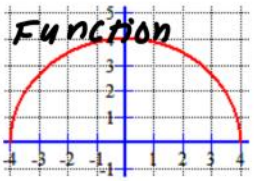
Zeros: $x = 0$

4. 

D: $(-\infty,\infty)$

R: $[0,\infty)$

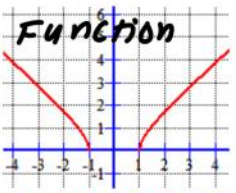
Zeros: $x = 2$

5. 

D: $[-4,4]$

R: $[0,4]$

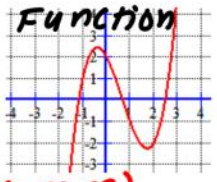
Zeros: $\{-4,4\}$

6. 

D: $(-\infty,-1] \cup [1,\infty)$

R: $[0,\infty)$

Zeros: $\{-1,1\}$

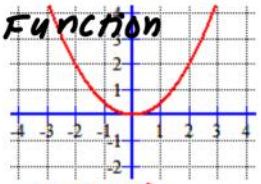
7. 

D: $(-\infty,\infty)$

R: $(-\infty,\infty)$

Zeros: $\{-1.1, 0.8, 2.5\}$

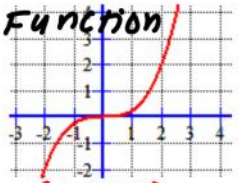
* approximately

8. 

D: $(-\infty,\infty)$

R: $[0,\infty)$

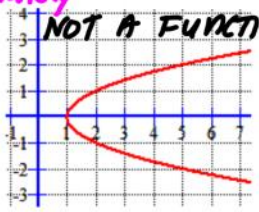
Zeros: $x = 0$

9. 

D: $(-\infty,\infty)$

R: $(-\infty,\infty)$

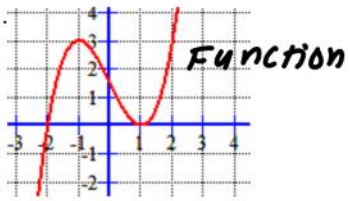
Zeros: $x = 0$

10. 

D: _____

R: _____

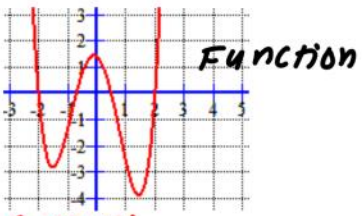
Zeros: _____

11. 

D: $(-\infty,\infty)$

R: $(-\infty,\infty)$

Zeros: $\{-2, 1\}$

12. 

D: $(-\infty,\infty)$

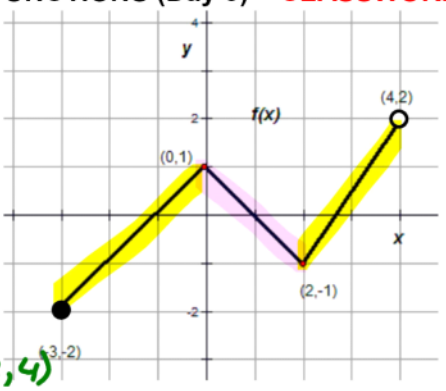
R: $[-4,\infty)$

Zeros: $\{-2, -.9, .5, 2\}$

* approximately

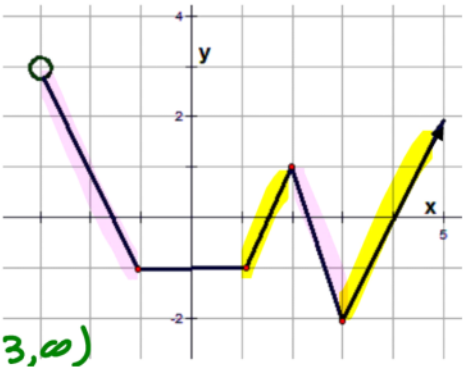
PRECALCULUS **Section 1.5: FUNCTIONS (Day 3) – CLASSWORK**

13. Given the graph of the function $f(x)$ find:



a. Domain and range. D: [-3,4) R: [-2,2)
b. Number of zeros of the function 3
c. The coordinates of the y-intercept. (0,1)
d. The value of $f(-1)$ 0
e. The coordinates of all maximums. (0,1)
f. The coordinates of all minimums. (-3,-2), (2,-1)
g. Intervals where the function increases. (-3,0) ∪ (2,4)
h. Interval where the function decreases. (0,2)

14. Given the graph of the function $f(x)$ find:



a. Domain and range. D: (-3,∞) R: [-2,∞)
b. Number of zeros of the function 4
c. The coordinates of the y-intercept. (0,-1)
d. The value of $f(-1)$ -1
e. The coordinates of all maximums. (2,1)
f. The coordinates of all minimums. (3,-2)
g. Intervals where the function increases. (1,2) ∪ (3,∞)
h. Interval where the function decreases. (-3,-1) ∪ (2,3)

15. Determine the domain of the following functions

a. $f(x)=3x^5-3x+1$
(-∞,∞)

b. $f(x)=\sqrt[3]{x+1}$
(-∞,∞)

c. $f(x)=\dfrac{\sqrt{x+3}}{x}$
$x\neq 0$ { $x+3\geq 0$, $x\geq -3$ } [-3,0) ∪ (0,∞)

d. $f(x)=\dfrac{1}{x-2}+\dfrac{2}{x-4}$
$x\neq 2$ $x\neq 4$
(-∞,2) ∪ (2,4) ∪ (4,∞)

e. $f(x)=\sqrt{x+5}$
$x+5\geq 0$ [-5,∞)
$x\geq -5$

f. $f(x)=\sqrt{x^2+4}$
(-∞,∞)
* when you square x it becomes positive so, D: all reals

g. $f(x)=\dfrac{x-3}{x^2+6x-16}$
$(x+8)(x-2)=0$
$x=-8$ $x\neq 2$
(-∞,-8) ∪ (-8,2) ∪ (2,∞)

h. $f(x)=\dfrac{x^2-4}{x-3}$
$x\neq 3$
(-∞,3) ∪ (3,∞)