Functions Practice Quiz (with solutions, make sure you understand the solutions)
Multiple Choice Section. Write the answer on the line to the right. No work has to be shown. (/10: K)

1) Calculate f(3) if f(x) = 5(x – 1) + 2

a) f(3) = 20 b) f(3) = 12 c) f(3) = 4/5 d) f(3) = 1 _____

2) Calculate f(2a) if f(x) = $-x^2 - 4$ = $-(2a)^2 - 4 = -4a^2 - 4$

a) f(2a) = $-4a^2 - 4$ b) f(2a) = $4a^2 - 4$ c) f(2a) = $-2a^2 - 4$ d) f(2a) = –4 _____

3) If f(x) = 2x – 5 calculate f(0) + f(1) = 2(0) – 5 + 2(1) – 5 = –8

a) = –5 b) = 5 c) = –3 d) = –8 _____

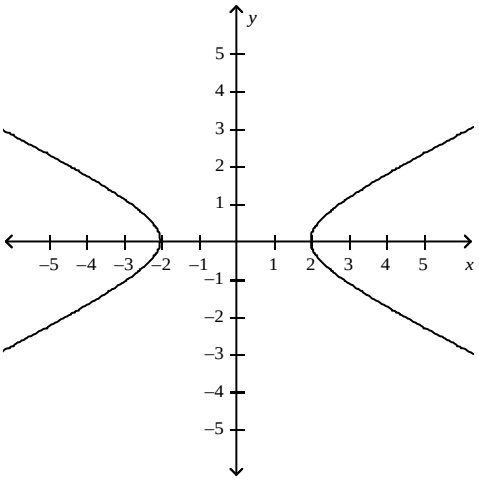
4) If f(x) = $x^2 + 1$, the domain is Graph and vertex is at point (0, 1)

a) x ε R b) y ε R c) x ≥ 1, x ε R d) y ≥ 1, y ε R _____

5) If f(x) = $-3x^2 + 4$, the range is Graph and parabola upside down at vertex (0,4)

a) x ε R b) y ε R c) x ≤ 4, x ε R d) y ≤ 4, y ε R _____

Questions #6-8 refer to the function f(x) below.



6) Using the graph, calculate f(4)
a) 2 c) 2 and –2 _____
b) –2 d) 0

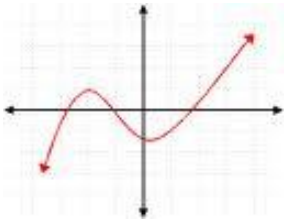
7) The best description of this graph is that f(x) is
a) a function c) a parabola that opens up _____
b) a relation d) an equation with two parts

8) The domain of this function is
a) x ≥ 2, x ε R c) x ≥ 2 & x ≤ –2, x ε R _____
b) x ≤ –2, x ε R d) x ≥ 2 & x ≤ –2, x ε I

9) Which of the following equations is a function?

a) $x^2 + y^2 = 25$ b) $x = y^2$ c) x = –7 d) y = –8 _____

10) Which statement below is NOT true for the graph pictured below?



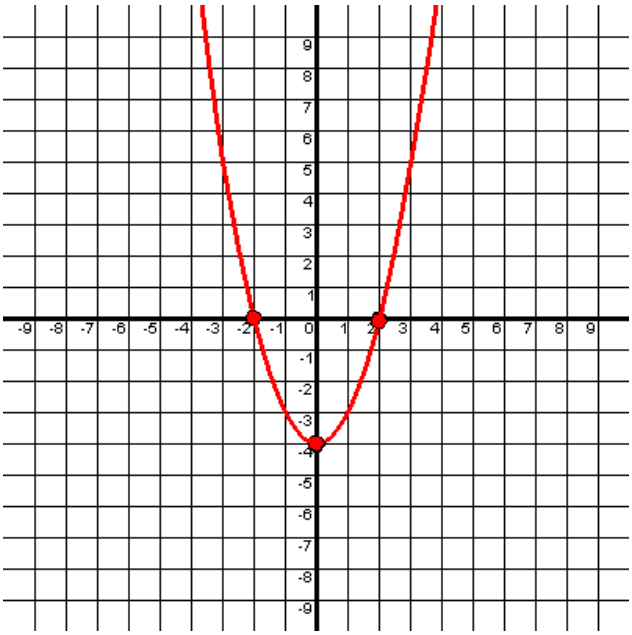
1) f(x) is equal to zero for three different x-values. _____
2) Domain is x ε R & Range is y ε R
3) The graph is a function as it passes the vertical line test
4) The y-intercept of f(x) is a positive number.

5) Is the graph below a function or no? Explain why. Yes. It passes the vertical line test.

6) What is the domain and range of the function below. Use proper terms.

Domain: D = {x ε ***R***}

Range: R = {y ε ***R***} y ≥ –4}



3) For this graph, what is f(–2) + f(0) + f(2)?

= 0 + (-4) + 0
= -4

4) If $f(x) = 2x^2 - 4$, calculate:

a) f(0)

= $2(0)^2 - 4$
= – 4

b) f(3)

= $2x^2 - 4$
= $2(3)^2 - 4$
= 18 – 4
= 14

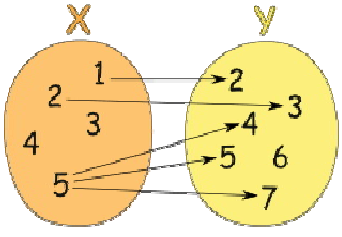
c) f(0) + f(3)

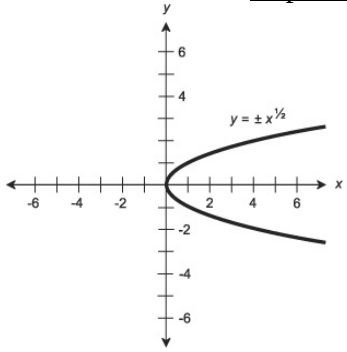
(use answers from part a & b)
= – 4 + 14 = – 10

5) f(x) = 2x – 3 and g(x) = 5x + 7. Calculate f(3) + g(2). Hint: Complete as two questions and add.

= 2(3) – 3 + 5(2) + 7
= 6 – 3 + 10 + 7
= 20

6) Identify whether each of the items below is a **Function** or **Not a Function**. Explain why.





NOT a function. x-value of 5 produces more

NOT a function. Fails the vertical line test.