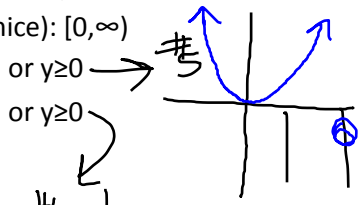
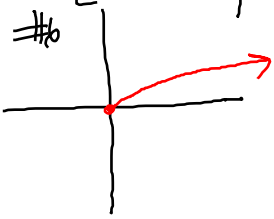
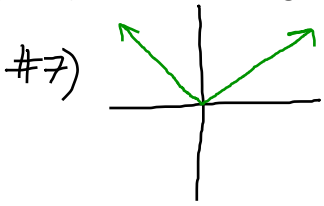
Functions Review Solutions

1. (-∞,5)
2. (-2,6]
3. Continuous domain (area): [0,∞) range (cost): [3,∞)
4. Discrete domain (time): [0,∞) range (# of mice): [0,∞)
5. $f(x) = x^2$ domain: (-∞,∞) or all real #s range: [0, ∞) or y≥0
6. $f(x) = \sqrt{x}$ domain: [0, ∞) or x ≥ 0 range: [0, ∞) or y≥0

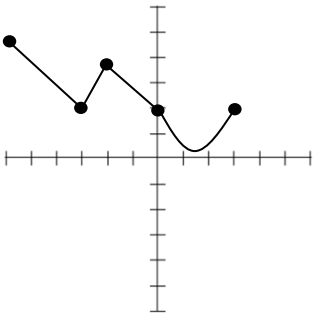




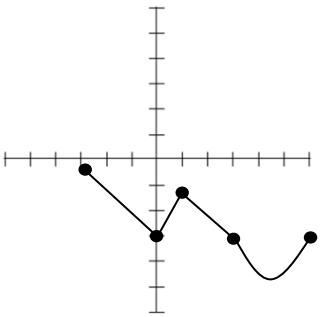
7. f(x) = |x| domain: (-∞,∞) or all real #s range: [0, ∞) or y≥0



8. $f(x) = (x - 4)^2 - 1$
9. f(x) = |x + 1| + 11
10. reflection across x-axis, vertical stretch x3, right 1, up 1
11. vertical shrink (compression) x½, up 7
12. $t(x) = f(x + 2) + 3$



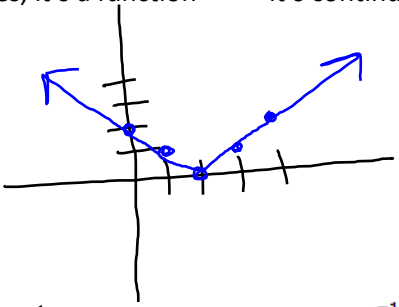
13. $t(x) = f(x - 1) - 2$



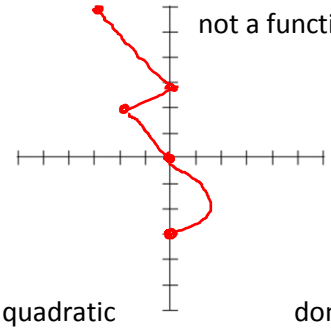
14. -3
15. 17
16. 47
17. 31
18. f(x) = |x – 2| yes, it's a function it's continuous

we'll give you a table on the test →

x	y
0	2
1	1
2	0
3	1
4	2



19. $g^{-1}(x) = 3(x + 2)$ or $g^{-1}(x) = 3x + 6$
    $g^{-1}(3) = 15$
    $g^{-1}(0) = 6$
    $g^{-1}(1) = 9$
20. $g^{-1}(x) = \frac{x - 1}{2}$
    $g^{-1}(3) = 1$
    $g^{-1}(0) = -½$
    $g^{-1}(1) = 0$

21.  not a function

22. f(-3) = 0
    f(0) = 0
    f(2) = -2

23. $f^{-1}(-2) = 2$ and 4.5
    $f^{-1}(-3) = 6$

24. quadratic domain: $(-\infty,\infty)$ range: $[-4, \infty)$
25. absolute value domain: $(-\infty,\infty)$ range: $(-\infty, 3]$
26. logarithmic domain: $(0, \infty)$ range: $(-\infty,\infty)$
27. b
28. e
29. a
30. d
31. c
32. f