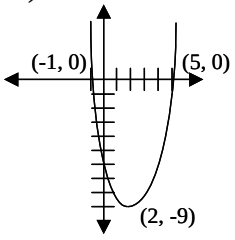
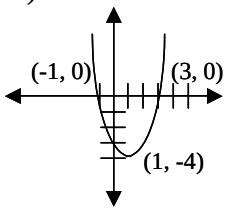
ANSWERS TO MTH 1030 PRACTICE WORKSHEET (UPDATED FALL 2007)

1. E
2. E
3. C
4. A
5. D
6. C
7. D
8. E
9. B
10. B
11. B
12. E
13. A
14. C
15. D
16. E
17. A
18. B
19. D
20. C
21. A
22. C
23. E
24. C
25. $\left(-\frac{5}{2},3\right)$, r = $\frac{\sqrt{69}}{2}$
26. $\frac{4}{3}\log r - 2\log s - 5\log t$
27. $(-5,-8),(-5,8),(5,-8),(5,8)$
28. 5 ONLY
29. [-1,3]
30. $(-\infty,5)$
31. $x = 7$
32. $x = 8$
33. a) $(0,-5)$
    b) $(5,0),(-1,0)$
    c) $(2,-9)$
    d)



34. $\frac{1}{4}$
35. a) $x = -4+\sqrt{7}$ or $x = -4-\sqrt{7}$
    b) $x = -\frac{1}{10}+\frac{\sqrt{39}}{10}i$ or $x = -\frac{1}{10}-\frac{\sqrt{39}}{10}i$
36. (4,1) (2, -3)
37. 8 ONLY
38. $x = -1$
39. $x = -\frac{1}{4}+\frac{\sqrt{15}}{4}i$ $x = -\frac{1}{4}-\frac{\sqrt{15}}{4}i$
40. $x = -2$ or $x = \frac{1}{2}$
41. $x = 2$ ONLY
42. $\frac{8a^8}{c^5}$
43. a) $(0,-3)$
    b) $(3,0),(-1,0)$
    c) $(1,-4)$
    d)



44. $(3,-5)$, r = $\sqrt{5}$
45. $-4-33i$
46. $\frac{1}{12}$
47. $(-2,2)$
48. $(3,-1)$, $(5,-3)$
49. $\log_5 \frac{(x-3)(x^4)}{(x+5)^2}$
50. $x = 9$
51. $-\frac{1}{3},\frac{1}{4}$
52. $f^{-1}(x) = \frac{x+3}{4}$
53. $x = -3$
54. $(-\infty,-3)\cup(9,\infty)$
55. -20
56. $\frac{x^{4/3}}{y^6}$
57. $(-\infty,-3]\cup[1/2,\infty)$
58. $\frac{6\sqrt{3}}{\sqrt{2}} = 3\sqrt{6}$
59. a) $y = \frac{12}{5}x - \frac{169}{5}$
    b) $y = -4.98$
    c) $y = -4.98$
60. \$10,123.94
61. $y = \frac{3}{4}x + \frac{25}{4}$,
    $y = 4.0150$ on line
    $y = 4.0149$ on circle
62. 4% (NOT 0.04%)
63. a) 40, 80
    b) $x = 60$
    c) \$800
64. $x \approx 14.27$ yrs., or 14 yrs., 3 mo., 9 days
65. $x \approx 3.96$
66. 515.30
67. $x = \frac{26 \pm 3\sqrt{142}}{43}$
    $(x \approx -0.227, x \approx 1.436)$
68. 2.446
69. 24.74