

ANSWERS TO MTH 1030 PRACTICE WORKSHEET (UPDATED SPRING 2008)

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

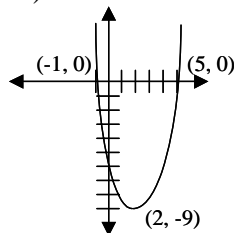
29. $[-1, 3]$

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

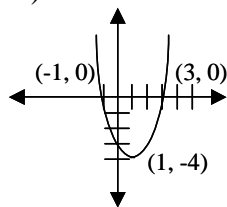
42. $\frac{8a^8}{c^5}$

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