

MAT 1050 Final Exam Answer Key
Fall 2013

1. $2 \cdot 7^x + (1 - \pi)3^x + 3^y$

2. $\frac{2y}{x^2}$

3. **128**

4. $\frac{16}{5}$

5. $\left\{\frac{5}{2}\right\}$

6. $\left(-\infty, -\frac{1}{2}\right) \cup \left(\frac{3}{2}, \infty\right)$

7. Jasmine has 9-\$5 bills and 12-\$10 bills.

8. $b = \frac{ac}{1 - 3ac}$

9. $[-1, \infty)$

10. a) $h(5) = \frac{1}{13}$ b) $h(a+1) = \frac{\sqrt{a}}{a^2 + 2a + 2}$

11. $2a + h - 7$

12. $y = -2x + 4$

13. $y = \sqrt{2}$

14. The numbers are 3 and 7.

15. $\{5 \pm 3i\}$

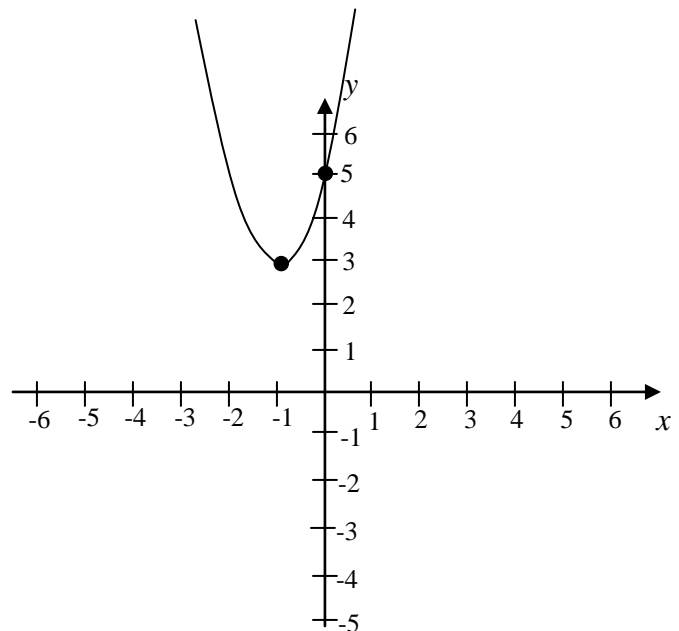
16. Vertex **(-1,3)**

Opens up

Intercept **(0,5)**

17. $\frac{-4}{x-4}$

18. $\{5\}$



19. $(-\infty, -2] \cup [0, 2]$

20. $(0, 9]$

21. a) Domain $(-\infty, -2) \cup [0, \infty)$

b) Range $(-\infty, \infty)$

c) $f(3) = -3$

d) $f(-4) = 0, \quad f(5) = 0$

22. $\{125, -1\}$

23. a) $\log_{49}(7) = \frac{1}{2}$ b) $\log_{\frac{1}{16}}(2) = -\frac{1}{4}$ c) $\log_4(64) = 3$

24. a) **2.1** b) **2.4** c) **-0.4**

25. $\{ \}$

26. ---

27. $-\log_3(5) < \cos(2) < \tan(2\pi) < \sin(2)$

28. a) $\frac{\pi}{36}$ *radians* b) 15°

29. a) $\frac{5}{\sqrt{39}}$ b) ---

30. The speed of the boat is 8 mph.