

**SPRING SEMESTER 2011**

**MATH 1111 Final Exam Solutions**

1.  $\frac{y^{12}}{x^6}$

2.  $2x^3 + 3x^2 - 32x - 48$

3.  $\frac{-2x+6}{(x-2)(x+1)(x-1)}$

4. \$19.44

5.  $\frac{3\sqrt{5}+3}{4}$

6.  $11-2i$

7. {13}

8.  $\frac{-1 \pm \sqrt{11}i}{2}$

9.  $\left\{-\frac{5}{2}, 0, 1\right\}$

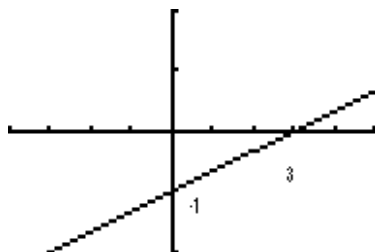
10.  $\left(-\infty, -\frac{1}{3}\right]$  or  $\left\{x \mid x \leq -\frac{1}{3}\right\}$

11.  $(-\infty, 1) \cup (7, \infty)$  or  $\{x \mid x < 1 \text{ or } x > 7\}$

12. \$1500

13.  $5\sqrt{2}$

14.



15.  $y = -x + 4$

16. \$67.34

17.  $(-\infty, -2) \cup (-2, 2) \cup (2, \infty)$  or  $\{x \mid x \neq \pm 2\}$

18. 181 miles

19. 3

20.  $(3, -4)$

21.  $(-\infty, 1) \cup (3, \infty)$  or  $\{x \mid x < 1 \text{ or } x > 3\}$

22.  $x = -7, -2$  or  $(-7, 0), (-2, 0)$

23.  $\sqrt{6}$

24. \$37.75

25.  $f^{-1}(x) = \frac{1}{x} + 1$  or  $f^{-1}(x) = \frac{x+1}{x}$

26.  $3\ln(x) + \frac{1}{2}\ln(x+2)$

27.  $\frac{1}{3}\ln\left(\frac{2}{7}\right)$  or  $\{-0.418\}$

28. {3}

29. \$305.05

30.  $x = -1, y = 4$  or  $(-1, -4)$