

Final 2006 (Solutions)

1. $2x^3$	2. $x^3 - 2x - 1$	3. $\frac{-x + 2}{(x + 1)(x - 1)}$	4. $2xy^3$	5. $\frac{1 - \sqrt{5}}{-2}$ or $\frac{\sqrt{5} - 1}{2}$
6. $\left\{-\frac{1}{2}\right\}$	7. \$1666.67	8. $\left\{-\frac{5}{2}, 3\right\}$	9. $\left\{-2, \frac{3}{4}\right\}$	10. $\{0\}$
11. $\{8\}$	12. $-i$	13. $(-\infty, -3) \cup (3, \infty)$	14. $d = 5$	15. $m = 2$
16. $y = \frac{3}{2}x - \frac{1}{2}$ or $3x - 2y - 1 = 0$	17. $x = -1$ and $\frac{3}{5}$ or $(-1, 0)$ and $\left(\frac{3}{5}, 0\right)$	18. $r = \sqrt{10}$	19. 128 ft per sec	20. $(-\infty, 9]$
21. $f(1) = 3$	22. $(f \circ g)(4) = 35$	23. $f^{-1}(x) = \frac{1}{2x - 2}$ or $f^{-1}(x) = \frac{1}{2(x - 1)}$	24. $(3, 47)$	25. 2
26. \$5809.17	27. $\{1\}$	28. rem = -1	29. $x = 1, y = 2$ or $\{1, 2\}$	30. maximum = 7 at $(3, 1)$ <i>The graph must be correct.</i>