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Answers for even numbered review problems

(10th edition)

Chapter 1.

6. (a) $x^2 - 5x + 10$. (c) $2x + 1$.

14. (c) $3x + 5y = 12$.

16. (a) $(-1, 0)$ and $(1, 0)$. (b) $(-5, 25)$ and $(3, 9)$.

38. (a) $Q[p(t)] = \sqrt{23.4 + 0.1t^2}$. (b) $\sqrt{24.3} \approx 4.93$ units. (c) 4 years from now.

42. (a) $C = 400t + 3200$. (b) 5200.

52. $C = 4(3000 - x) + 5\sqrt{900^2 + x^2}$.

54. \$8000.

58. (a) $A = 6$ (b) $A = 2$.

Chapter 2.

18. (b) $-\dfrac{25}{16}$.

20. (a) 87.5%.

22. (a) $120x^3 - 24x + 10 + \dfrac{2}{x^3}$

26. (a) $120x^3 - 24x + 10 + \dfrac{2}{x^3}$
(c) $24(3x^2 + 2)^2(21x^2 + 2)$

28. (b) $\dfrac{1 - 10(2x + 3y)^4}{15(2x + 3y)^4}$.

30. (b) -28.

36. (a) The velocity is $v(t) = 6(t^2 - 7t + 10)$. The object advances when $1 < t < 2$ and $5 < t < 6$ and retreats when $2 < t < 5$. The acceleration is $a(t) = 6(2t - 7)$. The object accelerates when $\dfrac{7}{2} < t < 6$ and decelerates when $1 < t < \dfrac{7}{2}$.
(b) 49.

Chapter 3.

28. $f(2) = 10$ is the absolute minimum and there is no absolute maximum.