1. $\int x^7 \, dx = \frac{x^8}{8} + c$

2. $\int \frac{6 \, dx}{x^3} = \frac{-3}{x^2} + c$

3. $\int \sqrt{6x+2} \, dx = \frac{(6x+2)^{\frac{3}{2}}}{9} + c$

4. $\int x\sqrt[3]{5x^2-1} \, dx = \frac{3(5x^2-1)^{\frac{4}{3}}}{40} + c$

5. $\int (3x^2+2)(x^3+2x)^3 dx = \frac{(x^3+2x)^4}{4} + c$

6. $\int (10x-1)\sqrt{5x^2-x} \, dx = \frac{2(5x^2-x)^{\frac{3}{2}}}{3} + c$

7. $\int (2x+3)^2 \, dx = \frac{(2x+3)^3}{6} + c$

8. $\int 4x(x^2+1)^3 \, dx = \frac{(x^2+1)^4}{2} + c$

9. $\int (6x^2+6)(x^3+3x)^{\frac{-1}{3}} \, dx = 3(x^3+3x)^{\frac{2}{3}} + c$

10. $\int (x-1)(x)^{-3} dx = \frac{-1}{x} + \frac{1}{2x^2} + c$

11. $s = \frac{t^3}{2} + 16t + 50$

12. $v = -80 ft/sec$

13.
      a. $s = 31.888 \, m$
      b. $t = 5.102 \, sec$
      c. $v = -25m/sec$

14.

    a. $s = -16(t)^2 + 30(t) + 200$

    b. $time\ total = 4.594\ sec$

15.

    a. $s = -4.9t^2 - 10t + 80$

    b. $t = 3.147\ sec$

16.

    a. $s = -4.9t^2 + 500$

    b. $t = 10.102\ sec$