

AP CALCULUS  
ADDITIONAL PRACTICE—TEST 7—ANSWERS

---

1.  $x + 4 \ln |x| + \frac{1}{x} + C$
2.  $\frac{3}{11} \sqrt[3]{y^{11}} - \frac{3}{2} \sqrt[3]{y^2} + C$
3.  $\frac{1}{\cos x} + C$
4.  $\frac{1}{2} \ln^2 x + C$
5.  $-\frac{1}{2}(1 - \sin x)^2 + C$
6.  $\frac{1}{5} e^{5x-3} + C$
7.  $\frac{1}{2} e^{x^2-1} + C$
8.  $-\cos x + C$
9.  $\frac{1}{4} x^4 + C$
10.  $e^{\sin x} + C$
11.  $y = e^{\frac{1}{2x^2} - \frac{1}{2}} - 1$
12.  $\frac{8^{9x+2}}{9 \ln 8} + C$
13.  $\frac{7^{2x^3+4}}{2 \ln 7} + C$
14.  $v(t) = -32t - 32$   
 $s(t) = -16t^2 - 32t + 128$
- Velocity at impact: 96 feet per second downward
15.  $v(t) = -32t + 16$   
 $s(t) = -16t^2 + 16t + 96$   
Maximum height: 100 feet  
Velocity at impact: 80 feet per second downward
16.  $y = -\sqrt{-4x^2 + 4x + 24}$
17.  $y = 5e^{x^3}$
18.  $2 \ln |\csc \sqrt{x} - \cot \sqrt{x}| + C$
19.  $-2 \cos \sqrt{x} + C$
20.  $y = \frac{1}{3} x^3 + \frac{3}{2} x^2 + 7x + 5$
21.  $\frac{4}{3} \sqrt{(x+3)^3} - 10\sqrt{x+3} + C$
22.  $\frac{3}{5} \sqrt[3]{(x+5)^5} - \frac{9}{2} \sqrt[3]{(x+5)^2} + C$
23.  $y = 2x^2 - x + 4$
24.  $y = x^3 - 2x - 3$
25.  $y = \sqrt{5 - 4 \cos 2x}$
26.  $3y^2 + 2y^3 = 3 \ln^2 x + C$
27.  $y = -\sqrt{2 \ln |x| + 2x + 14}$