

# AP Calc: Basic Integration Practice

①  $\frac{1}{3a} \left( (a+b)^{3/2} - b^{3/2} \right)$

② -1

③  $-\pi$

④  $y + \pi = 2(x + 1)$

⑤  $\frac{75}{b}$  or 12.5 gallons/hour  
 $\frac{25}{2}$

⑥ C

⑦  $2 \sqrt{\sin(2x)} \cdot \cos(2x) - 4x^5$

⑧ 168 gallons,  
168 gallons' of water were flowing out  
the pipe during the 24 hour period.

⑨ C

⑩ D

⑪ D

⑫  $v(t) = 3t^2 + 1$   $a(t) = t^3 + t + 3$

⑬  $\frac{4}{3}(y-5)^{3/2} + 26(y-5)^{1/2} + C$

⑭ B

⑮ 8.5 or  $\frac{17}{2}$