

2. (a)  $\frac{1}{16}$   
 (b) 8  
 (c)  $\frac{1}{3}$

4. (a) 1.8882  
 (b) .9381

6. (a) -3  
 (b) 4  
 (c) 3  
 (d)  $\frac{1}{2}$

8. (a) -.5229  
 (b) 1.1447

10. (a)  $\frac{1}{3}t - r - s$   
 (b)  $\frac{1}{2}[r + 3s - 2t]$

12. (a)  $\frac{1}{3} \log(x+2) - \log(\cos 5x)$   
 (b)  $\frac{1}{2} \ln(x^2+1) - \frac{1}{2} \ln(x^3+5)$

$$14. \log \left( \frac{100\sqrt{x}}{\sin^3(2x)} \right)$$

$$16. \log(1+x) = 3$$

$$x = 999$$

$$18. x = \pm e^2$$

$$20. x = 7$$