

1. a) T b) F c) NED d) F e) F f) T  
g) NED

2.  $\text{Area} = \sqrt{3} - \frac{\pi}{6}$

3. a) equation:  $y = -4x + 8$  b)  $y \approx 1$

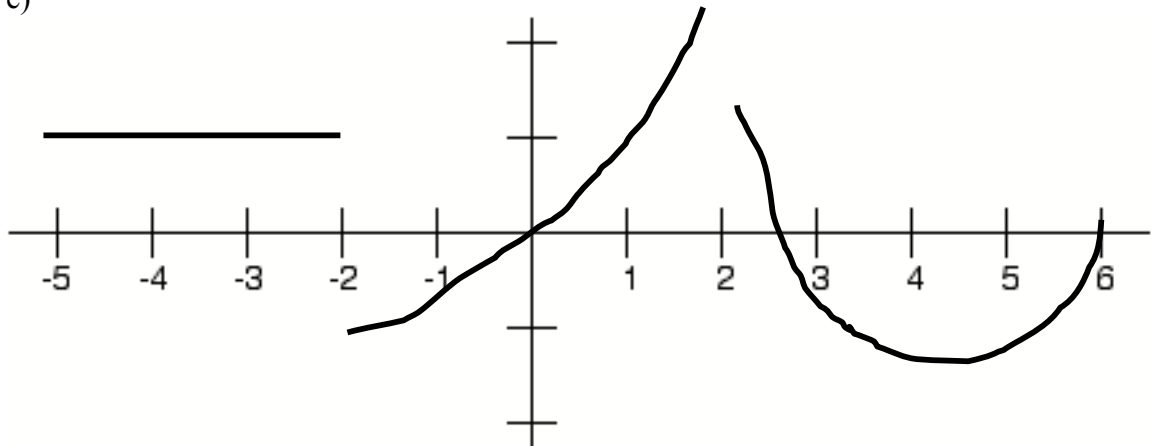
4.  $\text{Volume} = \pi \left[ \frac{1}{7} 2^7 - \frac{14}{6} 2^6 + \frac{69}{5} 2^5 - \frac{140}{4} 2^4 + \frac{100}{3} 2^3 \right] = \frac{1808}{105} \pi$

5. a)  $3x^2 \sin 2x + 2x^3 \cos 2x$   
b)  $\frac{(\sin x - x) \sec^2 x - \tan x (\cos x - 1)}{(\sin x - x)^2}$

c)  $\frac{1}{2} \left( \frac{x^2 + 2}{x} \right)^{-\frac{1}{2}} \left( \frac{x2x - (x^2 + 2)}{x^2} \right) = \frac{1}{2} (x + 2x^{-1})^{-\frac{1}{2}} (1 - 2x^{-2})$

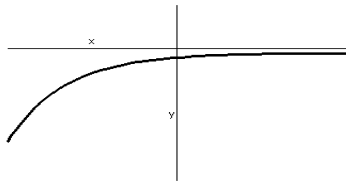
6. a)  $\frac{x^5}{5} + \cos x + c$  b)  $\frac{1}{5} \tan 5x + c$  c)  $\frac{1}{24} (12^4 - 9^4) = \frac{14175}{24} = \frac{4725}{8}$

7. a) 0, 3 b) (-5,-2); (0,2); (2,3) c) (-5,-2); 4 d) (2,4)  
e)

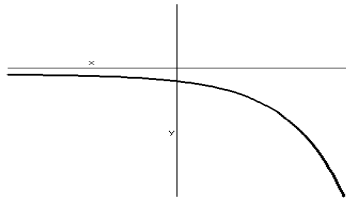


8. a) 4 b) 1 c) 3 d) 2

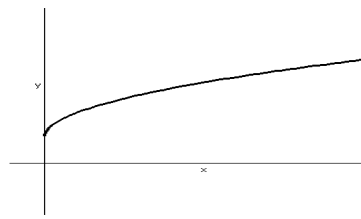
9. a) -108 b) 13/3 c) -18 d) -24



10. a) yes



b) yes  
c) no



d) yes

11. a) IV

b) III

c) I

d) V

e) II

12. d

13. h

14. d

15. c