

Problem Set 61

2. $e^x = 1 + x + \frac{x^2}{2} + \frac{x^3}{3!} + \frac{x^4}{4!} + \dots$

4. $\frac{1}{40\pi} \text{ in}$

6. $f(x) = x^2 + 3x + 1$

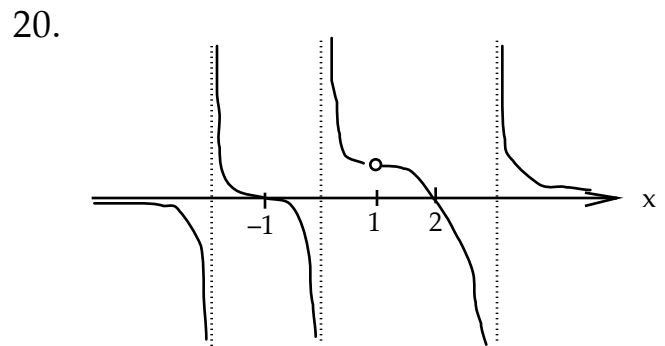
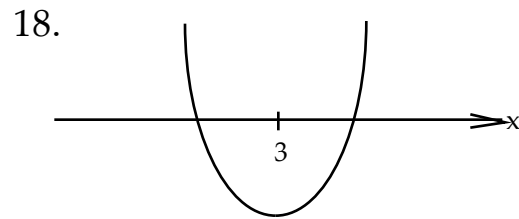
8. $f(x) = 3x^2 - 2x + 3$

10. $-\csc x + C$

12. 9 units^2

14. $\frac{4}{3} \text{ units}^2$

16. $k = \frac{15}{4}$



22.
$$y' = -\frac{1}{2}(3x^2 + 1)(x^3 + x + 1)^{-\frac{3}{2}} + e^{4x-3}(\pi \sec^2(\pi x) + 4 \tan(\pi x))$$

24. $[3, 5]$