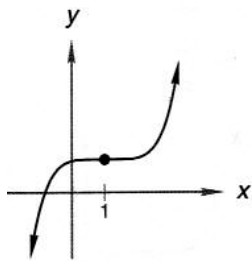


Calculus — Problem Set 49



- 2.
4. Min at $x = -1$
Max at $x = 0$
Min at $x = 1$

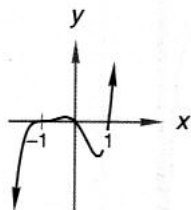
6. 4 units^2

8. $8\pi \text{ units}^2$

10. $y' = 4 \csc x(1 - x \cot x)$

12.
 $286(\sin x + \cos x)^{21}(\cos x - \sin x)$

14. $-\frac{1}{2}$



16.

18. $2e^x + \sin x + 14 \cos x$

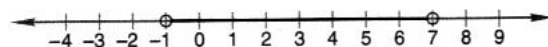
20. $3x$

22. $8x^{1/2} - 2x^{3/2} - \frac{x^{\pi+1}}{\pi+1} + \frac{x^{1-\pi}}{1-\pi}$
 $+ 3 \cos x + \sin x - 2e^x + C$

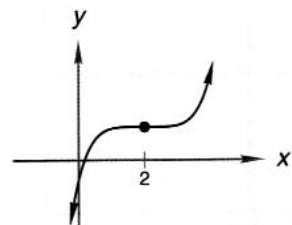
24.

$|x - 3| < 4$

“x is less than 4 away from 3”



Calculus — Problem Set 50



- 2.
4. Inflection

points: $x = -\frac{1}{3}, \frac{1}{2}$

6. $y' = \tan x$

8.
 $e^x(x^2 + 4)^{49}(x^2 + 100x + 4)$

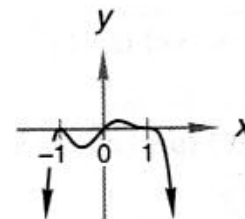
10. $\frac{9}{2} \text{ units}^2$

12.
 $(1 + \ln 2) \approx 1.6932 \text{ units}^2$

14. $\frac{1}{3}x^3 - 2x^2 + 4x + C$

16. $2 \cos 2 \approx -0.8323$

18.
 $2x^{3/2} - 6x^{2/3} - \cos x + \frac{2}{3}x^{-3}$
 $- 7 \ln|x| - 3e^x + C$



20.

22. $x = \ln 21 \approx 3.0445$

24. 2