

## Problem Set 57

2.  $p(x) = 6 - 2x + 4x^2 + 2x^3$

4.  $\frac{dx}{dt} = \frac{9 \text{ units}}{4 \text{ sec}}$

6.  $t = -2, 2$

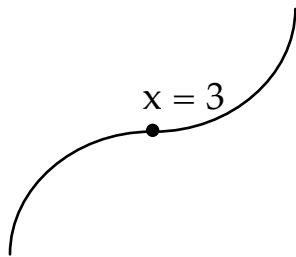
8. 14

10. 4

12.  $\ln \sqrt{3x^2 + 2x} + C$

14.  $2\sqrt{x^2 + x + 1} + C$

16.



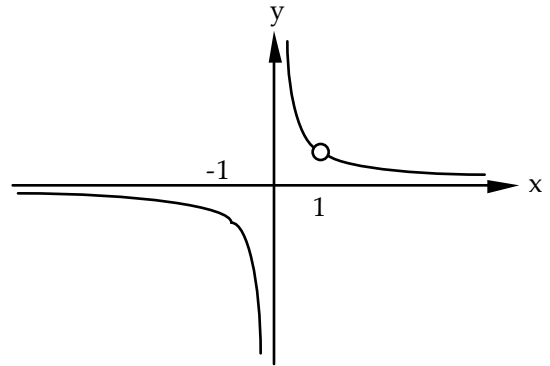
18. D

20. 
$$\frac{dy}{dx} = \frac{2xe^{x^2} + 1}{x^2 + 2x} - \frac{2(e^{x^2} + x)(x + 1)}{(x^2 + 2x)^2}$$

$$+ 6 \sec^3(2x) \tan(2x)$$

$$- 12 \csc^3(4x) \cot(4x)$$

22.



24. One-fourth of a unit circle:  $\frac{\pi}{4}$