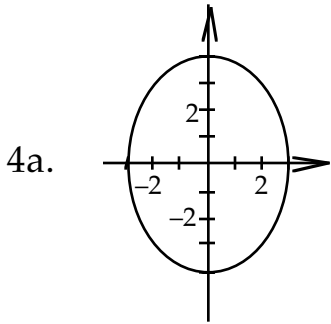


## Problem Set 112

2.  $3\frac{1}{6}$

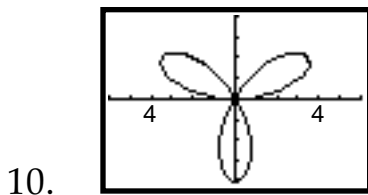


b.  $\frac{x^2}{9} + \frac{y^2}{16} = 1$

c. Parametric:  $\frac{dy}{dx} = -\frac{16x}{9y}$   
 Rectangular:  $\frac{dy}{dx} = -\frac{16x}{9y}$

6.  $\frac{1}{2}$

8.  $y = \frac{3}{2}x + \frac{1}{2}$



12.  $\frac{16}{27}(10\sqrt{10} - 1)$  units

14. Unit tangent:  $\left\langle \frac{1}{\sqrt{37}}, \frac{6}{\sqrt{37}} \right\rangle$

Unit normal:  $\left\langle -\frac{6}{\sqrt{37}}, \frac{1}{\sqrt{37}} \right\rangle$

16. Converges to 0

18.  $a_n = (-1)^{n+1} \frac{3^n}{2^n}, n = 1, 2, 3, \dots$

20. (2.474576787, 0.6186441968)

22.  $e^2$

24. C