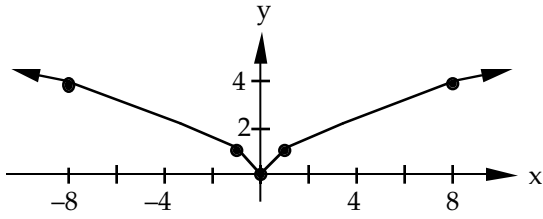


## Problem Set 106

2a.



b.  $\frac{dy}{dx} = \frac{2}{3}x^{-1/3}$

c.  $y = x^{2/3}$

4.  $4\frac{1}{12}$

6.  $T_6 = 0.313$

8.  $n = 22$

10. 0

12. Does not exist

14.  $-2\cot x + \frac{1}{2}\tan x - \frac{5}{2}x + C$

16.  $-\pi(e^{-1} - 1)$  units<sup>3</sup>

18.  $c = -\frac{1}{3} + \frac{2\sqrt{13}}{3}$

20a.  $a_1 = \frac{1}{3}, a_2 = -\frac{2}{9}, a_3 = -\frac{15}{43}, a_4 = -\frac{16}{39}$

b. Converges to  $-\frac{3}{5}$

22.  $a_n = \frac{(n-2)^2}{(n-2)+1} = \frac{(n-2)^2}{n-1}$   
 $n = 3, 4, 5, \dots$

24. Diverges