

### Calculus — Problem Set 35

2. 149.2992 fathoms/s

4.  $4t^{1/2} + C$

6.  $\frac{3}{2}x^2 + C$

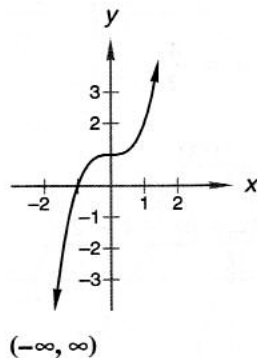
8.  $\frac{dv}{dt}$

10. A

12.  $\approx 0.8568$

14. 5

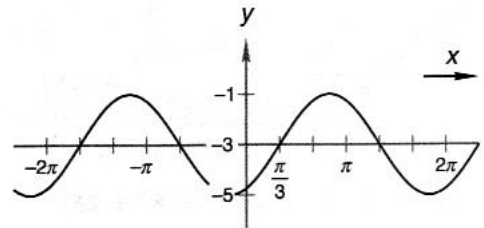
16.



18. 3

20.

$$= -3 + 2 \sin\left(x - \frac{\pi}{3}\right)$$



22.  $6x^2 + 3$

24.  $A = \frac{25\sqrt{3}}{4}$  units<sup>2</sup>

### Calculus — Problem Set 36

Critical numbers:  $x = -1, 1$



Local maximum:  $\left(-1, \frac{2}{3}\right)$

Local minimum:  $\left(1, -\frac{2}{3}\right)$

2.

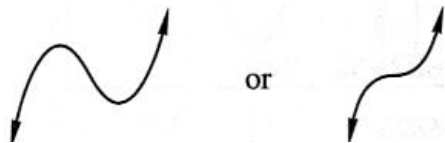
4.  $\frac{1}{30}u^{3/2} + C$

6.  $3x + C$

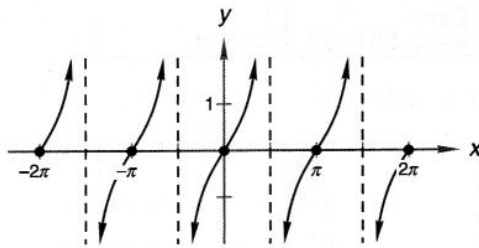
8.  $\sec y$

10.  $\approx -1.3818$

12.



14.



16.  $\tan(2A) = \frac{2 \tan A}{1 - \tan^2 A}$

18.  $x \approx -2.5811$

$x \approx 0.5811$

20.  $-\frac{2}{5}$

22. If  $f$  is increasing on  $[a, b]$ , then  $f'(x) > 0$  on the interval  $[a, b]$ .

24.  $r = \frac{5\sqrt{2}}{2}$  cm