

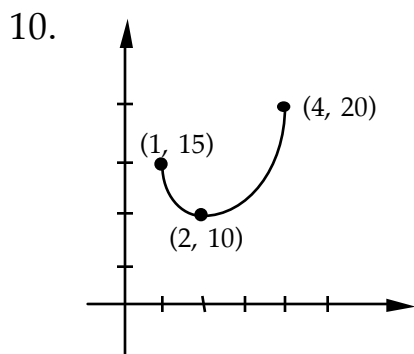
## Problem Set 66

2.  $-9.8 \text{ m/s}^2$

4. 0

6.  $x = \csc y$   
 $(f^{-1})' = \frac{-1}{x\sqrt{x^2 - 1}}$

8.  $\frac{dy}{dx} = \frac{\cos x}{\sin^2 x + 1}$



maximum: 20  
 minimum: 10

12a.  $1 - \frac{(2x)^2}{2} + \frac{(2x)^4}{4!} - \frac{(2x)^6}{6!} + \dots$

b. they are the same

14.  $\frac{2}{15}(x+1)^{\frac{3}{2}}(3x-2) + C$

16.  $\frac{1}{2}x^2 + \ln|x| + C$

18.  $\arctan x + C$

20.  $\frac{3x^2 \sec^2(x^3 - 1)}{e^2 + e^x} - \frac{e^x \tan(x^3 - 1)}{(e^2 + e^x)^2}$

22.  $y = \frac{1}{2}$

24.  $\frac{ab\pi}{4}$