

Thursday - March 10, 2016

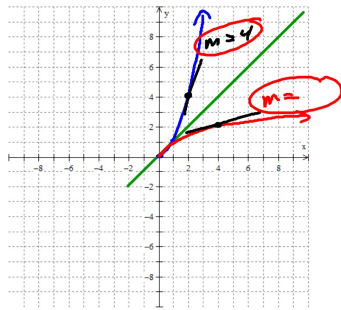
④ $y = x + 2, x = 1, x = 3, y = 2$

$\pi \int_3^5 (3)^2 - (y-2)^2 dy = \pi \int_3^5 (-y^2 + 4y + 5) dy$

$= \pi \left[-\frac{1}{3}y^3 + 2y^2 + 5y \right]_3^5 = \frac{28}{3} \pi$

$\frac{28}{3} \pi + 8\pi = \frac{52}{3} \pi$

$\pi \int_2^3 (3)^2 - (1)^2 dy = \pi \int_2^3 8 dy = \pi [8y]_2^3 = 8\pi$



$y = x^2 \quad y' = 2x$

inv
 $y = \sqrt{x}$

⑥ $(f^{-1})'(2)$

$f(x) = x^3 + 2x - 1 = 2$

from calc

$f(1) = 2$

$f'(x) = 3x^2 + 2$

$f'(1) = 5 \quad (f^{-1})'(2) = \frac{1}{5}$