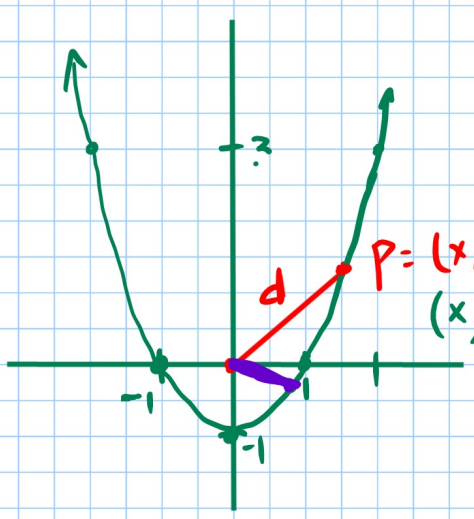
WARMUP - turn to page 158
grab a calculator

Section 2.7 Mathematical Models; Constructing Functions

ex 1 p158

$P=(x,y)$ $y=x^2-1$



a) $d=\sqrt{(x-0)^2+(y-0)^2}$

$d=\sqrt{x^2+y^2}$

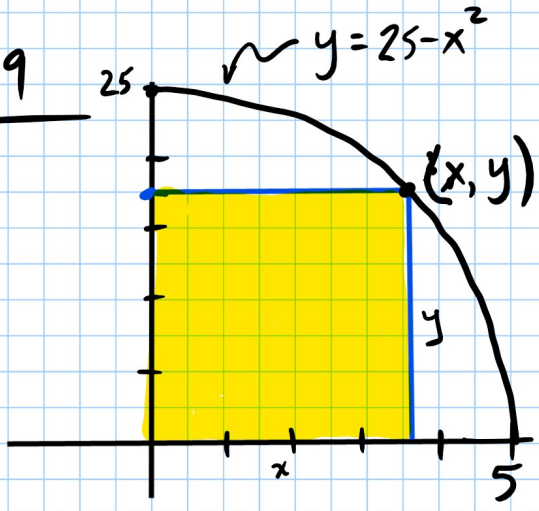
$d(x)=\sqrt{x^2+(x^2-1)^2}$

b) $d(0)=\sqrt{0^2+(0^2-1)^2}$

$d(0)=1$

c) $x=0.71$

ex 2 p159



a) $A=xy$

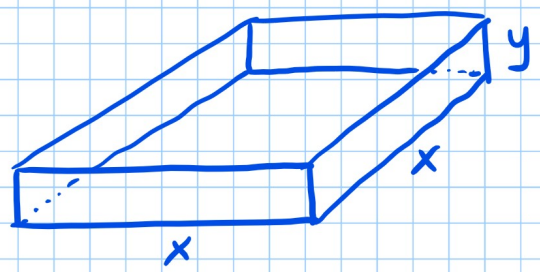
$A=x(25-x^2)$

b) $D=(0,5)$

c) graph

d) $x=2.89$

24 p165



$V = x \cdot x \cdot y = x^2 y = 10$

$A = x^2 + 4xy$

x^2: bottom; $4xy$: 4 sides × Area

b) $x = 1$ ft

$A = 1^2 + \frac{40}{1} = 41 \text{ ft}^2$

c) $x = 2$ ft

$A = 2^2 + \frac{40}{2} = 24 \text{ ft}^2$

d) $x = 2.71$ ft

$\frac{x^2 y}{x^2} = \frac{10}{x^2}$

$y = \frac{10}{x^2}$

$A = x^2 + \frac{4x \cdot 10}{1 \quad x^2}$

a) $A = x^2 + \frac{40}{x}$

p163-165 1, 7, 8, 23