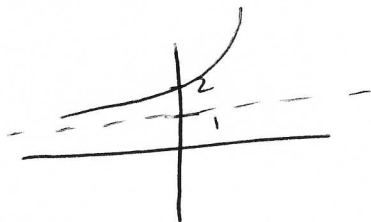


④ 5pts a)  $f(x) = 2^x + 1$



yes

is 1-1 b/c it passes  
horiz. line test!

→ no graph!

10pts b)  $x = 2^y + 1$   
 $x - 1 = 2^y$

$$y = \log_2(x-1)$$

$f^{-1}(x) = \log_2(x-1)$

⑤ (a)  $3x + 2y = 1200$

5pts

$$y = \frac{1200 - 3x}{2}$$

$$y = 600 - \frac{3}{2}x$$

$$A(x) = x \left( 600 - \frac{3}{2}x \right)$$

$A(x) = -\frac{3}{2}x^2 + 600x$

8pts (b) Find vertex:

$$x = \frac{-b}{2a} = \frac{-600}{2(-3/2)} = \frac{-600}{-3} = 200$$

$$A(200) = -\frac{3}{2}(200)^2 + 600(200)$$

$$= -\frac{3}{2}(40000) + 120000$$

$$= -60,000 + 120,000$$

$A(200) = 60,000 = \text{max.}$