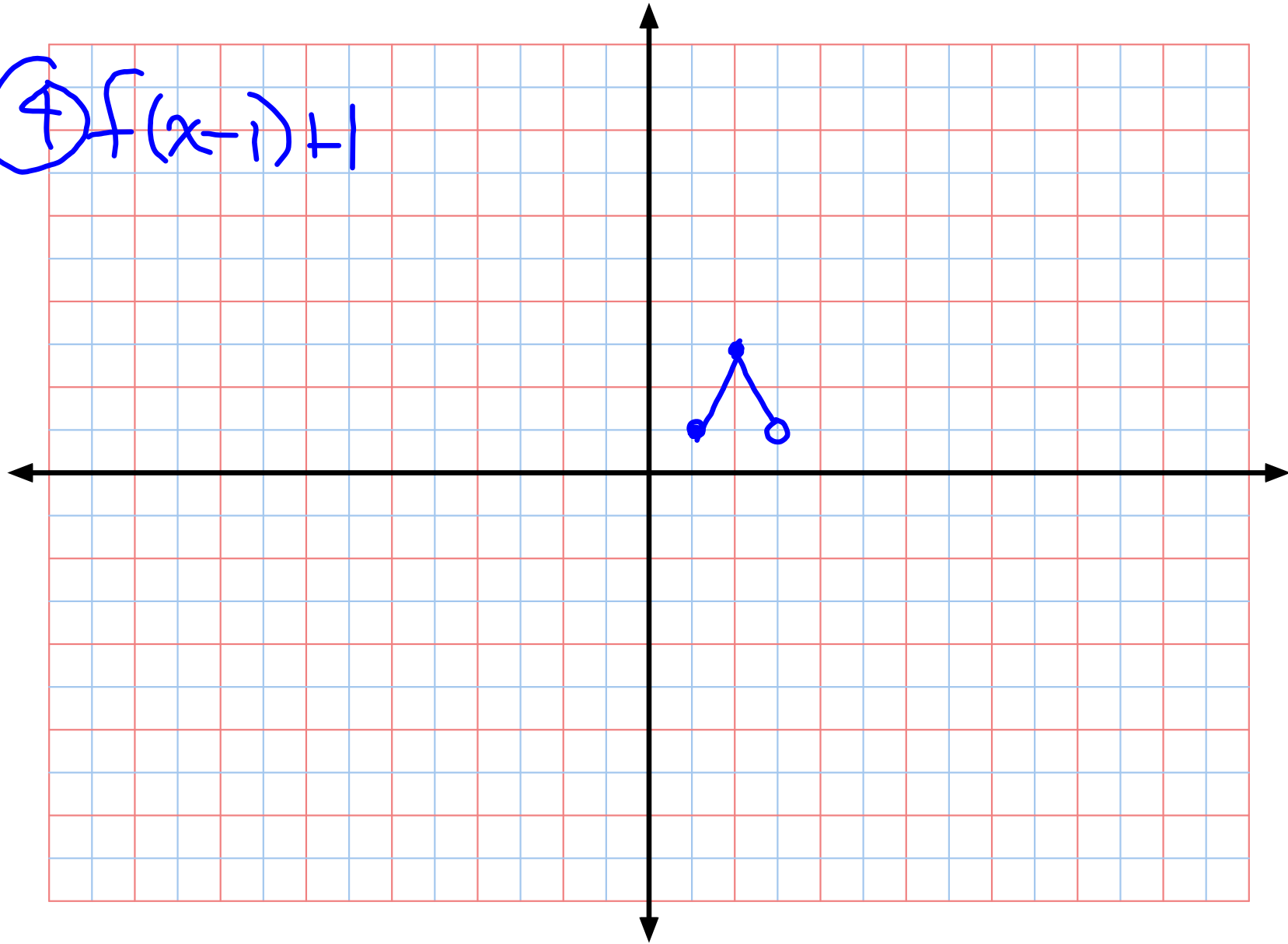


$$\textcircled{1} \quad D[0, 2) \\ R[0, 2]$$

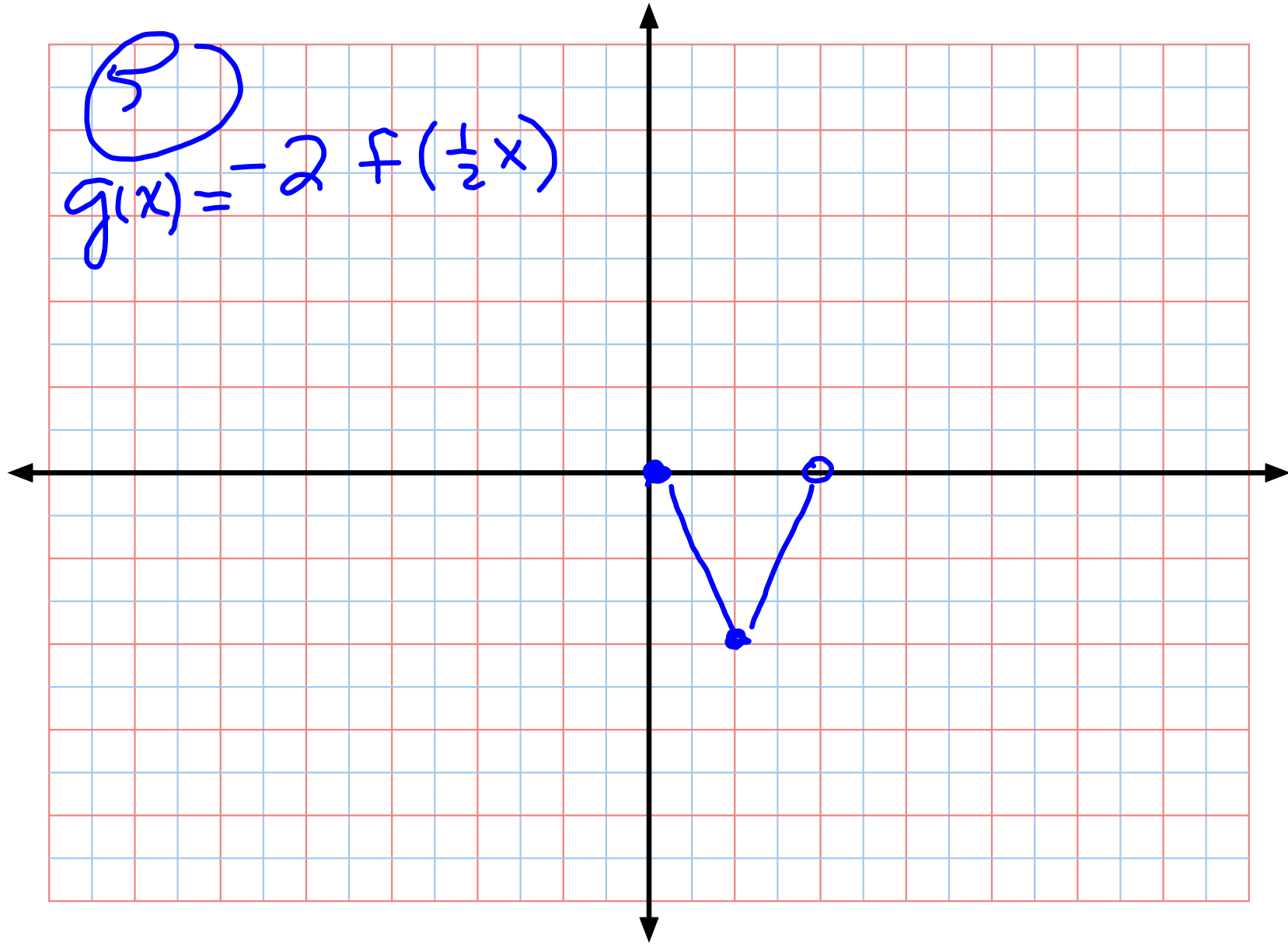
$$2. \quad f(x) = 1 \quad \text{at} \quad \frac{1}{2}, \frac{3}{2}$$

3. max is 2

$$\textcircled{4} f(x-1)+1$$



5  
 $g(x) = -2f\left(\frac{1}{2}x\right)$



$$\textcircled{b} \quad x^2 - x - 12 = 8$$

$$x^2 - x - 20 = 0$$

$$(x - 5)(x + 4)$$

$$\{-4, 5\}$$

⑦

$$12x - 3 = 4 - 6x + 18$$

$$18x = 25$$

$$x = \frac{25}{18}$$

8

$$\sqrt{x} + 2 = x$$

$$\sqrt{x} = x - 2$$

$$x = x^2 - 4x + 4$$

$$x^2 - 5x + 4 = 0$$

$$(x - 4)(x - 1) = 0$$

$$x = 4 \quad \cancel{x = 1}$$

{ 4 }

⑨

$$\text{let } a = x^{\frac{1}{3}}$$

$$a^2 = x^{\frac{2}{3}}$$

$$a^2 - a - 6 = 0$$

$$(a - 3)(a + 2) = 0$$

$$a = 3$$

$$a = -2$$

$$x^{\frac{1}{3}} = 3$$

$$x^{\frac{1}{3}} = -2$$

$$x = 27$$

$$x = -8$$

$$\textcircled{10} \quad \frac{x}{2} - 3 \leq \frac{x}{4} + 2$$

$$2x - 12 \leq x + 8$$

$$x \leq 20$$

$$(-\infty, 20]$$

⑪

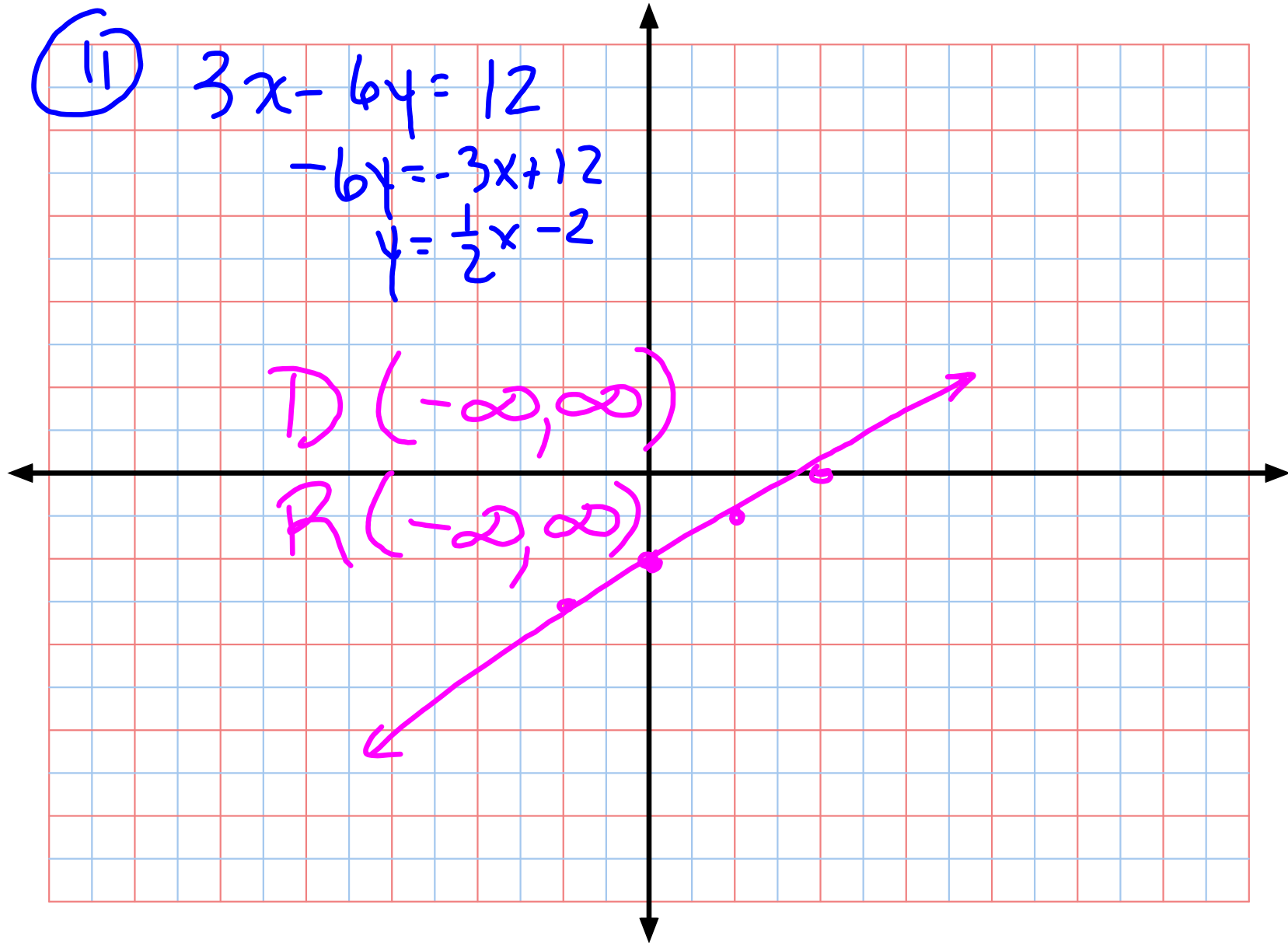
$$3x - 6y = 12$$

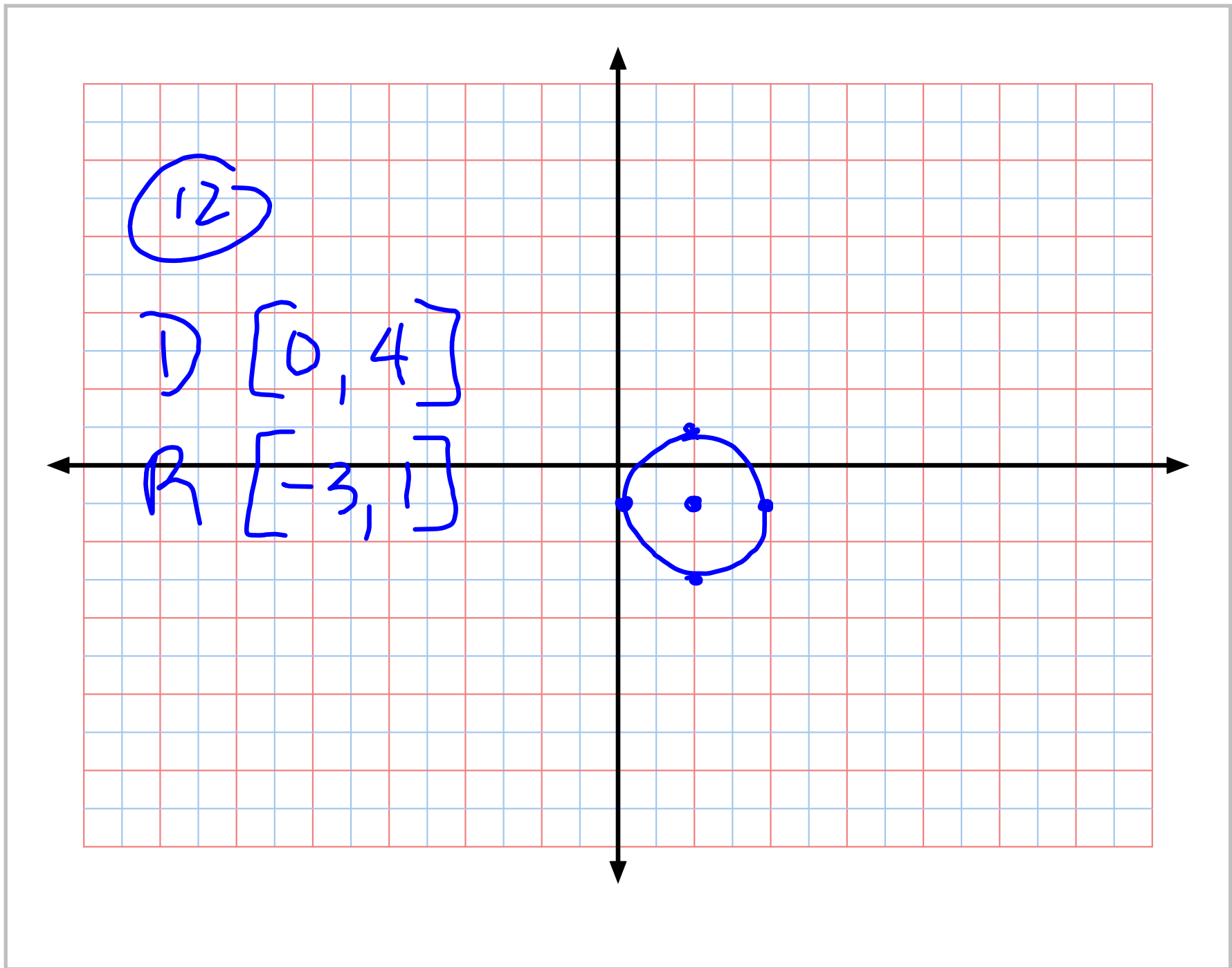
$$-6y = -3x + 12$$

$$y = \frac{1}{2}x - 2$$

$D(-\infty, \infty)$

$R(-\infty, \infty)$

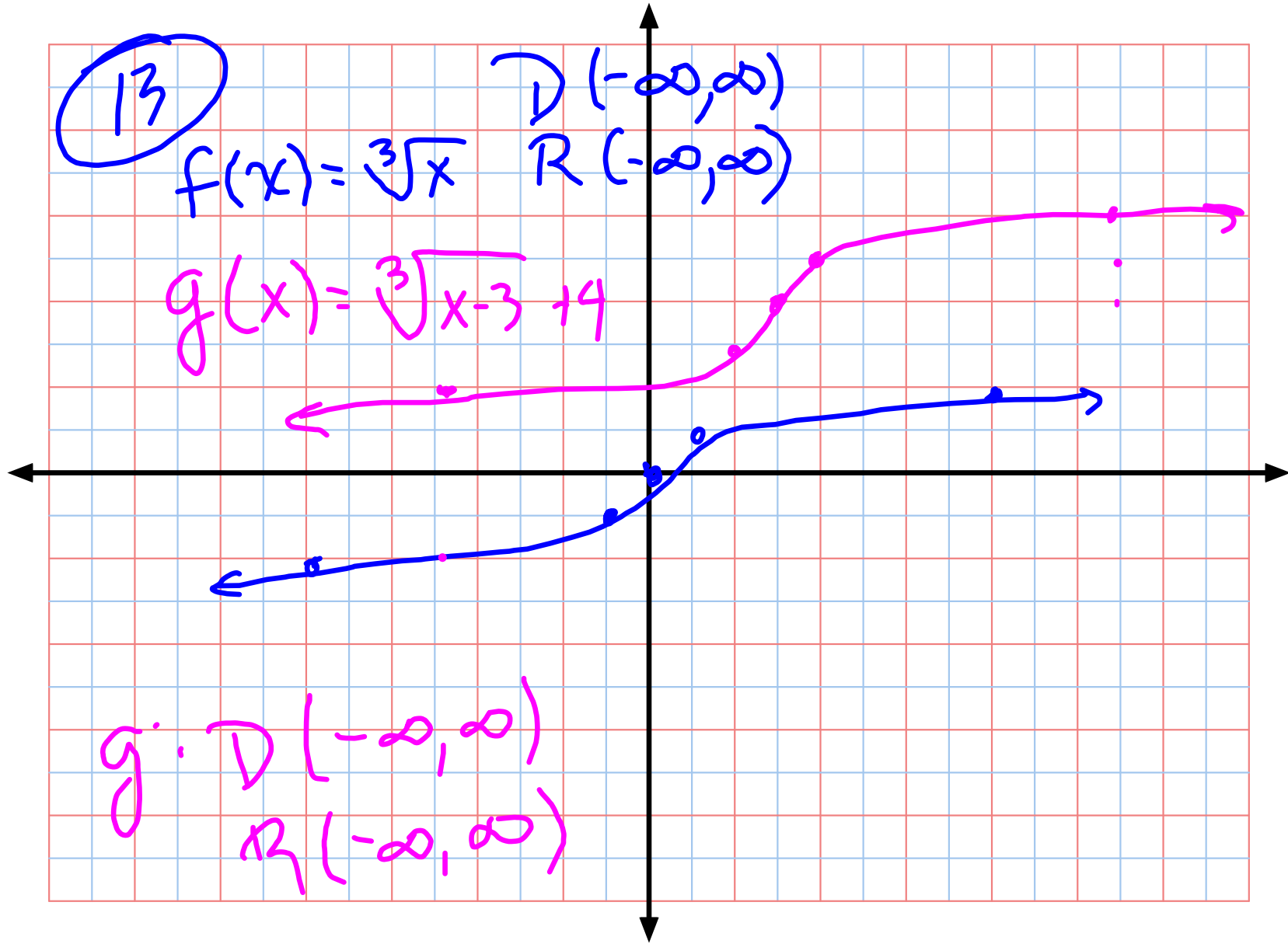




13

$$f(x) = \sqrt[3]{x} \quad D(-\infty, \infty) \\ R(-\infty, \infty)$$

$$g(x) = \sqrt[3]{x-3} + 14$$



$$g: D(-\infty, \infty) \\ R(-\infty, \infty)$$

(14)  $f(x) = \sqrt{x-3} + 2$

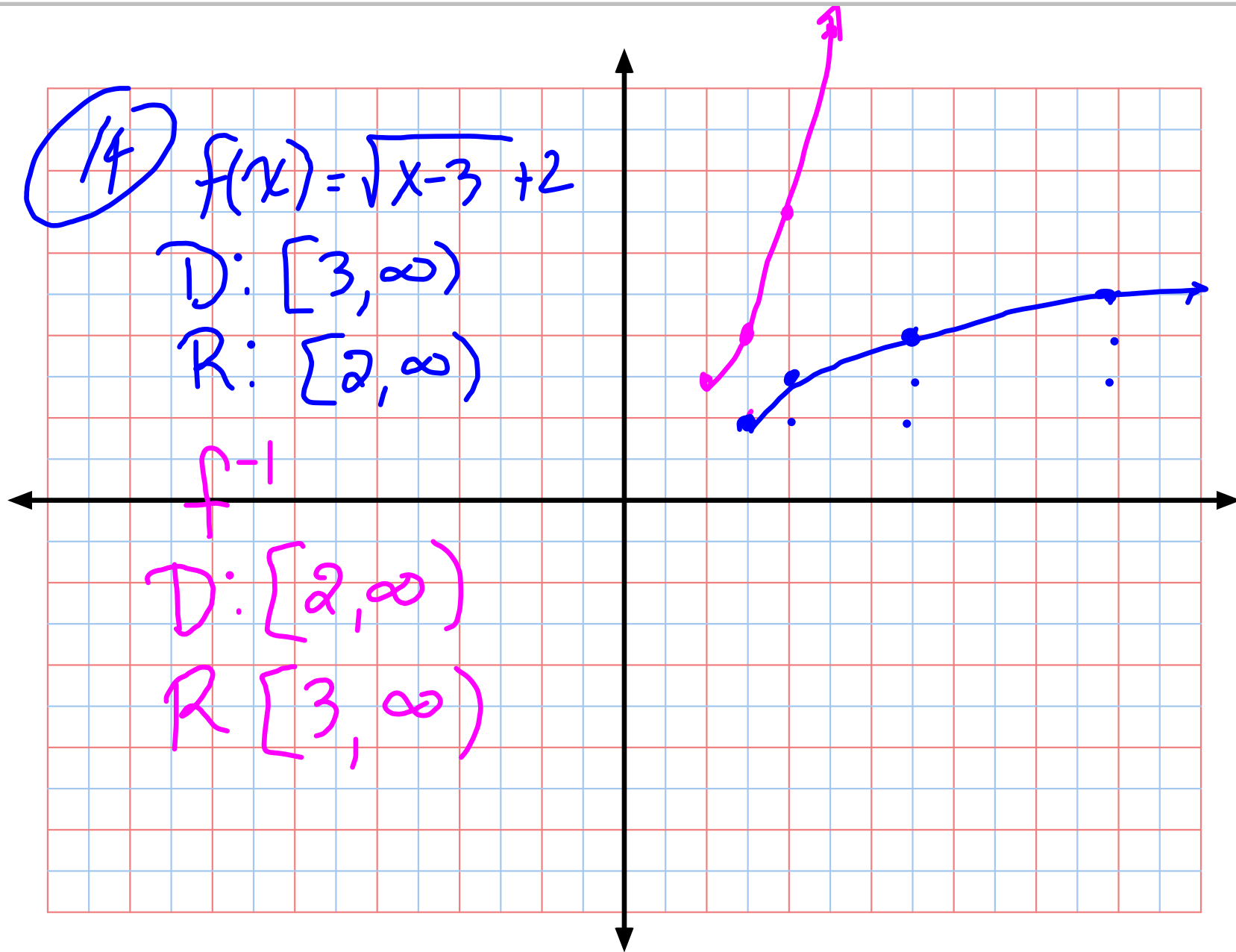
D:  $[3, \infty)$

R:  $[2, \infty)$

$f^{-1}$

D:  $[2, \infty)$

R:  $[3, \infty)$



15

$$\frac{(4 - (x+h)^2) - (4 - x^2)}{h}$$

$$\frac{(4 - (x^2 + 2xh + h^2)) - 4 + x^2}{h}$$

$$\frac{4 - x^2 - 2xh - h^2 - 4 + x^2}{h}$$

$$\frac{-2xh - h^2}{h} = -2x - h$$

16

$$(f \circ g)(x) = f(x+5)^2$$

$$4 - (x^2 + 10x + 25)$$

$$4 - x^2 - 10x - 25$$

$$-x^2 - 10x - 21 = 0$$

$$x^2 + 10x + 21 = 0$$

$$(x+7)(x+3)$$

$$x = -3 \text{ or } x = -7$$

17

$$y = -\frac{1}{4}x + \frac{1}{3} \quad m_1 = -\frac{1}{4}$$

$$m_2 = 4$$

point slope  $y - 5 = 4(x + 2)$

slope-int  $y = 4x + 13$

general  $4x - y + 13 = 0$

Standard  $4x - y = -13$

18

$$.07x + .09(6000 - x) = 510$$

$$.07x + 540 - .09x = 510$$

$$-.02x = -30$$

$$x = 1500 \text{ at } 7\%$$

$$6000 - 1500 = 4500 \text{ at } 9\%$$

19

$$200 + .05x = .15x$$

$$200 = .10x$$

$$x = 2000$$

20.

$w = \text{width}$   
 $2w + 2 = \text{length}$

$$2w + 2(w + 2) = 22$$

$$6w + 4 = 22$$

$$6w = 18$$

$$w = 3$$

$3 \times 8$  dimensions  
# #