

1.8

$$f(x) = .227x + 3.066$$

$$y = .227x + 3.066$$

$$x = .227y + 3.066$$

$$x - 3.066 = .227y$$

$$\frac{x - 3.066}{.227} = y$$

$$f^{-1}(x) = \frac{x - 3.066}{.227}$$

$$f^{-1}(7) = \frac{7 - 3.066}{.227}$$

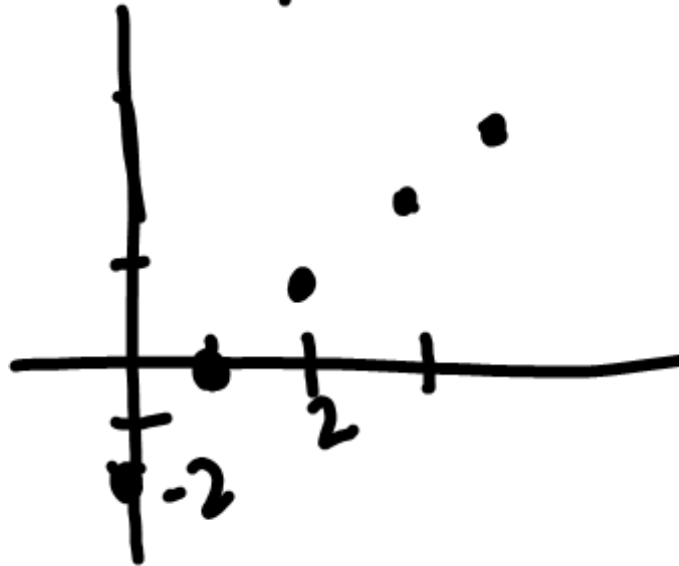
$$f^{-1}(7) = 17.33$$

$$t = 5 \quad 1995$$

$$t = 17 \quad 2007$$

$(-2, 0)$
 $(0, 1)$
 $(1, 2)$
 $(2, 3)$
 $(4, 4)$

x	0	1	2	3	4
$f^{-1}(x)$	-2	0	1	2	4



Given 2 points
Write equation of line

$$(3, 7) \quad (2, -1)$$

find slope $m = \frac{y_2 - y_1}{x_2 - x_1}$

$$m = \frac{7 - (-1)}{3 - 2}$$

$$m = 8$$

Choose a point $(3, 7)$

$$\begin{array}{l}
 y = mx + b \\
 7 = 8(3) + b \\
 \begin{array}{r} -24 \quad -24 \\ 7 = 24 + b \end{array} \\
 -17 = b \\
 y = 8x - 17
 \end{array}
 \left\{
 \begin{array}{l}
 y - y_1 = m(x - x_1) \\
 y - 7 = 8(x - 3) \\
 y - 7 = 8x - 24 \\
 y = 8x - 17
 \end{array}
 \right.$$

\$ 20 entry

\$ 5 / game

$$f(x) = 5x + 20$$

$$d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$$

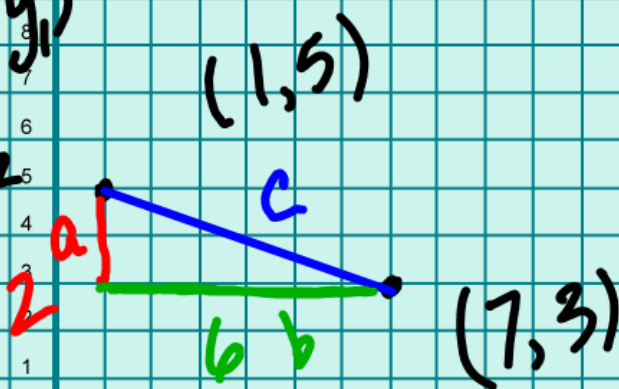
$$d = \sqrt{(7-1)^2 + (5-3)^2}$$

$$d = \sqrt{6^2 + 2^2}$$

$$d = \sqrt{36 + 4}$$

$$d = \sqrt{40}$$

$$d = 2\sqrt{10}$$



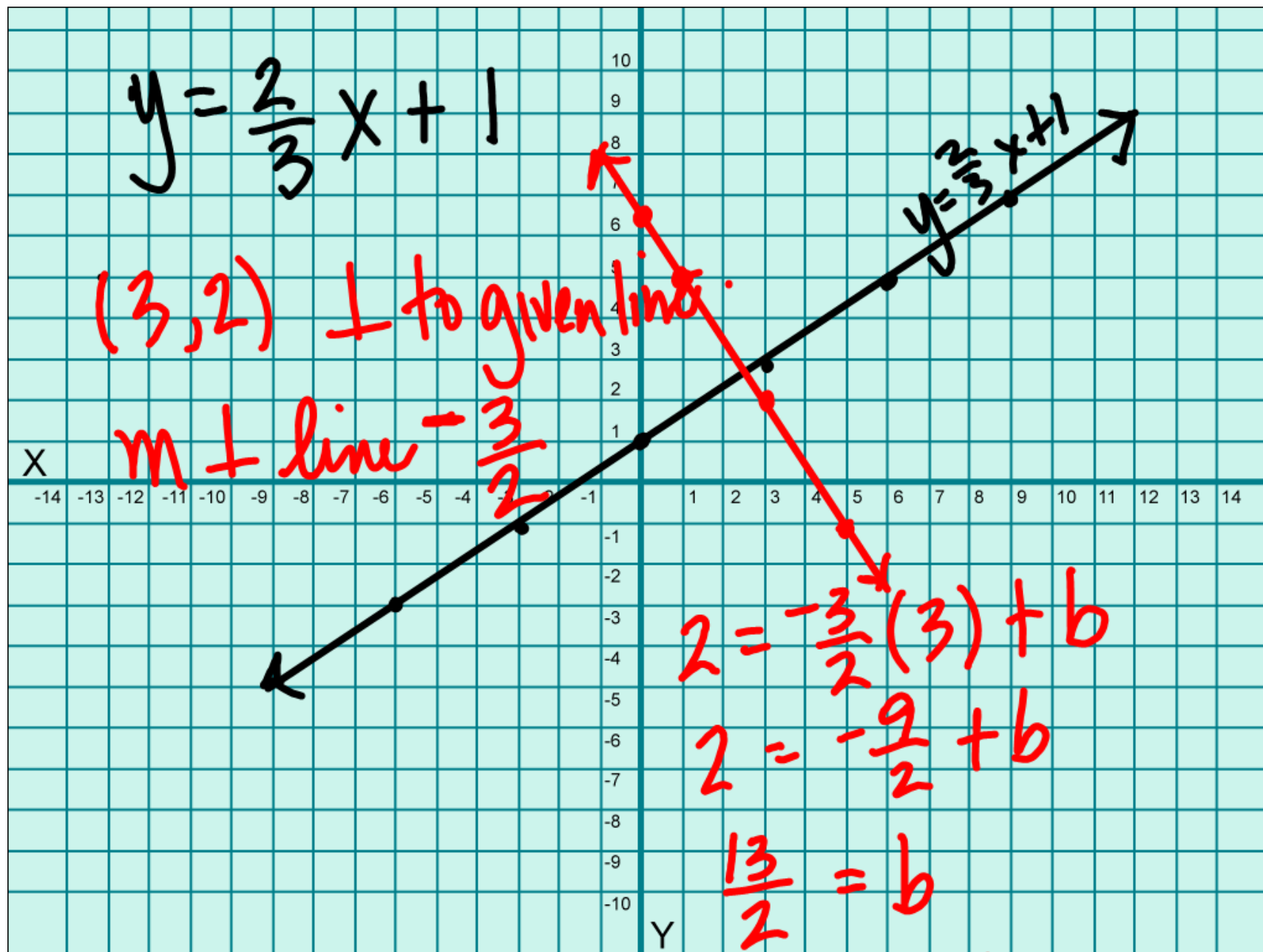
$$a^2 + b^2 = c^2$$

$$2^2 + 6^2 = c^2$$

$$4 + 36 = c^2$$

$$\sqrt{40} = \sqrt{c^2}$$

$$2\sqrt{10} = c$$



$$y = x^2$$

$$y = (x - 1)^2 + 6$$

Horizontal Translation

1 unit right

Vertical Translation

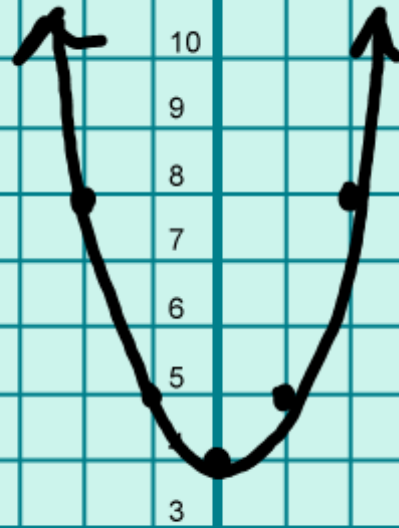
6 units up

$$y = x^2 + 4$$

x's

Domain: All Reals

y's
Range: $y \geq 4$



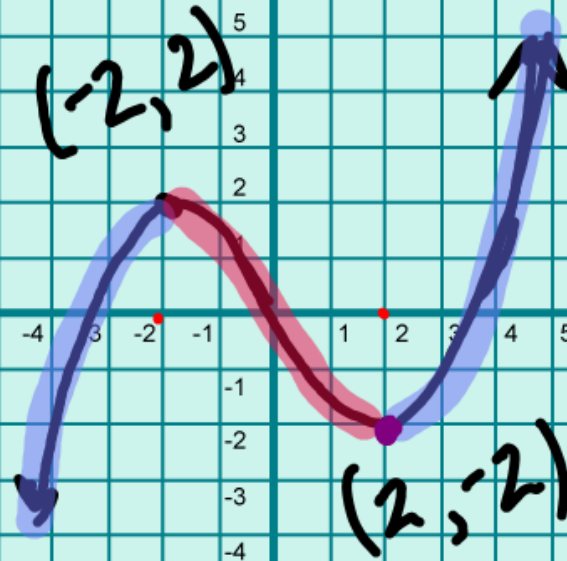
Intervals

increasing } decreasing
trace

Increasing
 $(-\infty, -2)$
 $x < -2$

X

-14 -13 -12 -11 -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 1 2 3 4 5 6 7 8 9 10 11 12 13 14



Decreasing
 $(-2, 2)$
 $-2 < x < 2$

Increasing
 $(2, \infty)$
 $x > 2$

Y

Functions p59

Even $f(-x) = f(x)$

Odd $f(-x) = -f(x)$

Neither

Composite Function

Operations on Functions

Write in Standard Form
Circle

$$(x-h)^2 + (y-k)^2 = r^2$$

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

$$(x^2 - 4x + 4) + (y^2 - 2y + 1) = 4$$

$$\left(\frac{-4}{2}\right)^2$$

$$(x-2)^2 + (y-1)^2 = 9$$

$$\left(\frac{-2}{2}\right)^2$$

Center $(2, 1)$ $r = 3$