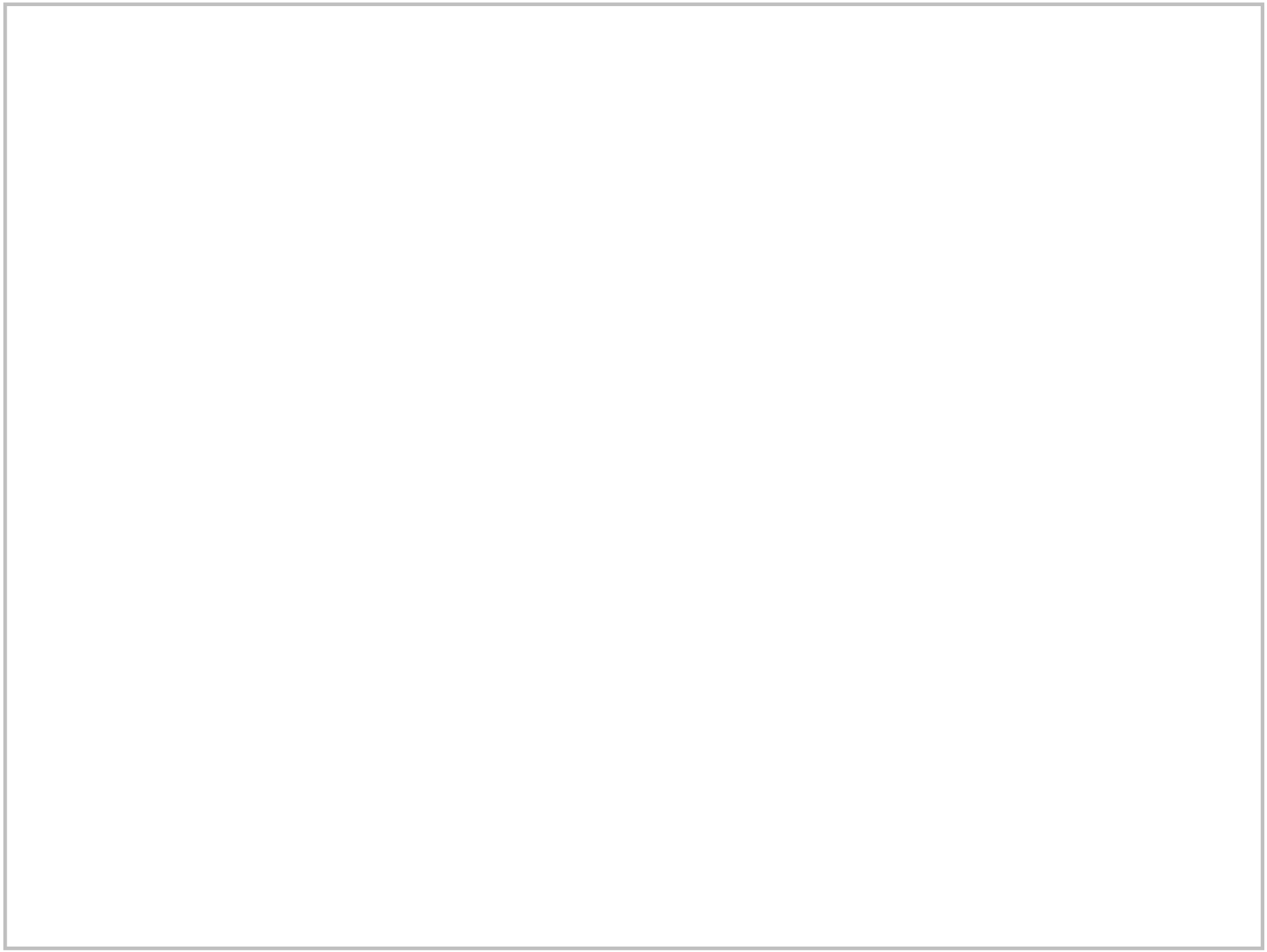
Good Morning happy Tuesday!
Agenda:
- Quiz has been pushed back to Thursday.

- Review quiz material

-Conitinue Function transfomations and domain and range

Remind Code: 19afm20

Delta math:196729



Title: Sep 10-11:45 AM (2 of 10)

Slope intercept form:

$3x + 8y = -12$

$-3x \quad\quad -3x$

$\frac{8y}{8} = \frac{-3x - 12}{8}$

$y = \frac{-3}{8}x - \frac{12}{8}$

$y = \frac{-3}{8}x - \frac{3}{2}$

slope, int.

Interpreting slope:

- $y = \frac{5}{3}x + 2$ $\quad y = -2x + 4$ $\quad y = -\frac{3}{2} - \frac{3}{8}x$

$y = 3x - 8$

Parallel and Perpendicular lines through a point:

$y = \frac{5}{8}x + 1$

Parallel → same slope

through $(24, -3)$

$y - y_1 = m(x - x_1)$

Point-slope

$y - -3 = \frac{5}{8}(x - 24)$

$y + 3 = \frac{5}{8}x - \frac{5}{8} \cdot \frac{24}{1}^{3}$

$y + 3 = \frac{5}{8}x - 15 \rightarrow y = \frac{5}{8}x - 18$

Perpendicular

$(15, -6)$

$-\frac{8}{5} = m$

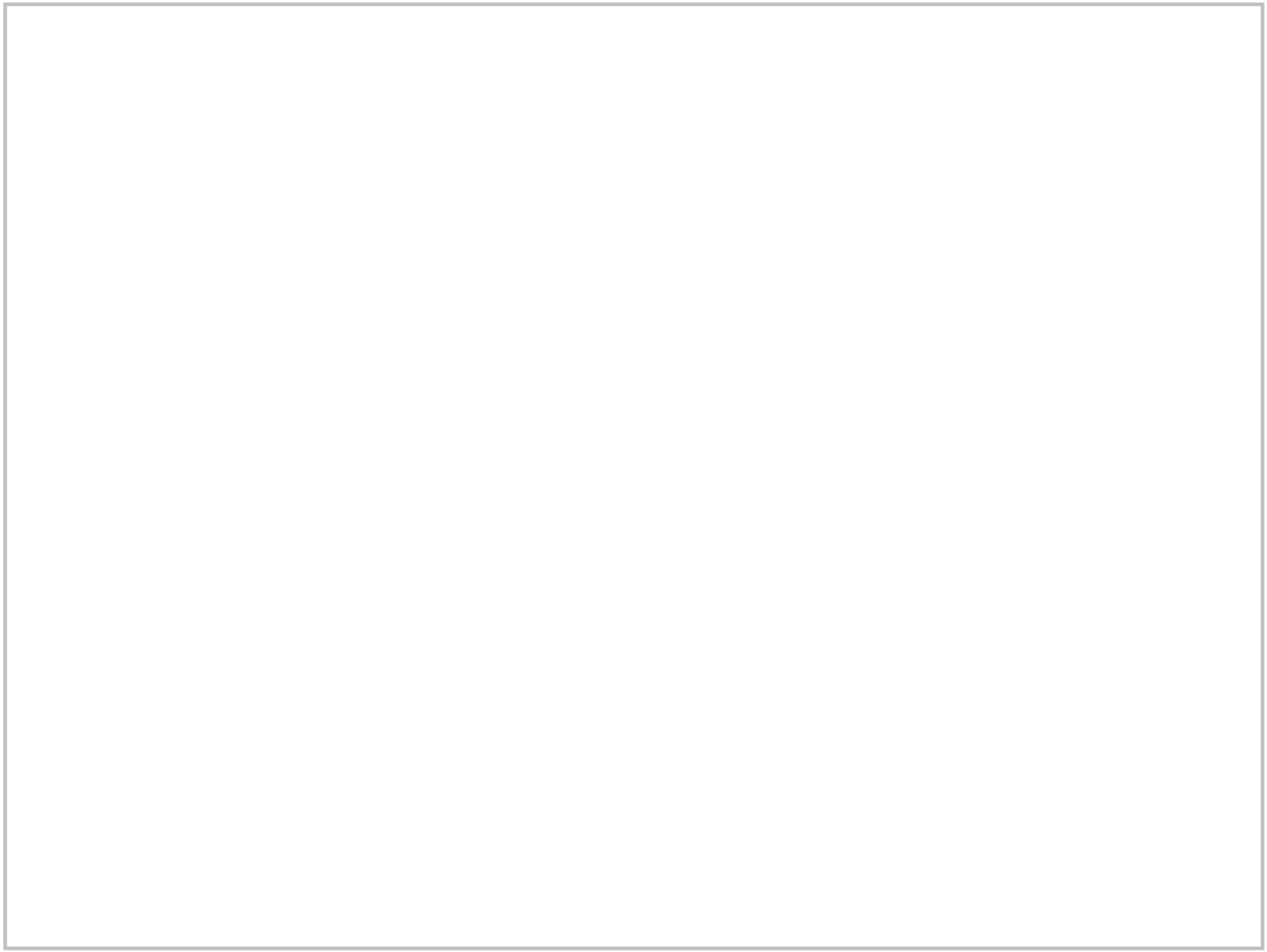
$y - -6 = \frac{-8}{5}(x - 15)$

$y + 6 = \frac{-8}{5}x - \left(\frac{-8}{5} \cdot \frac{15}{1}\right)$

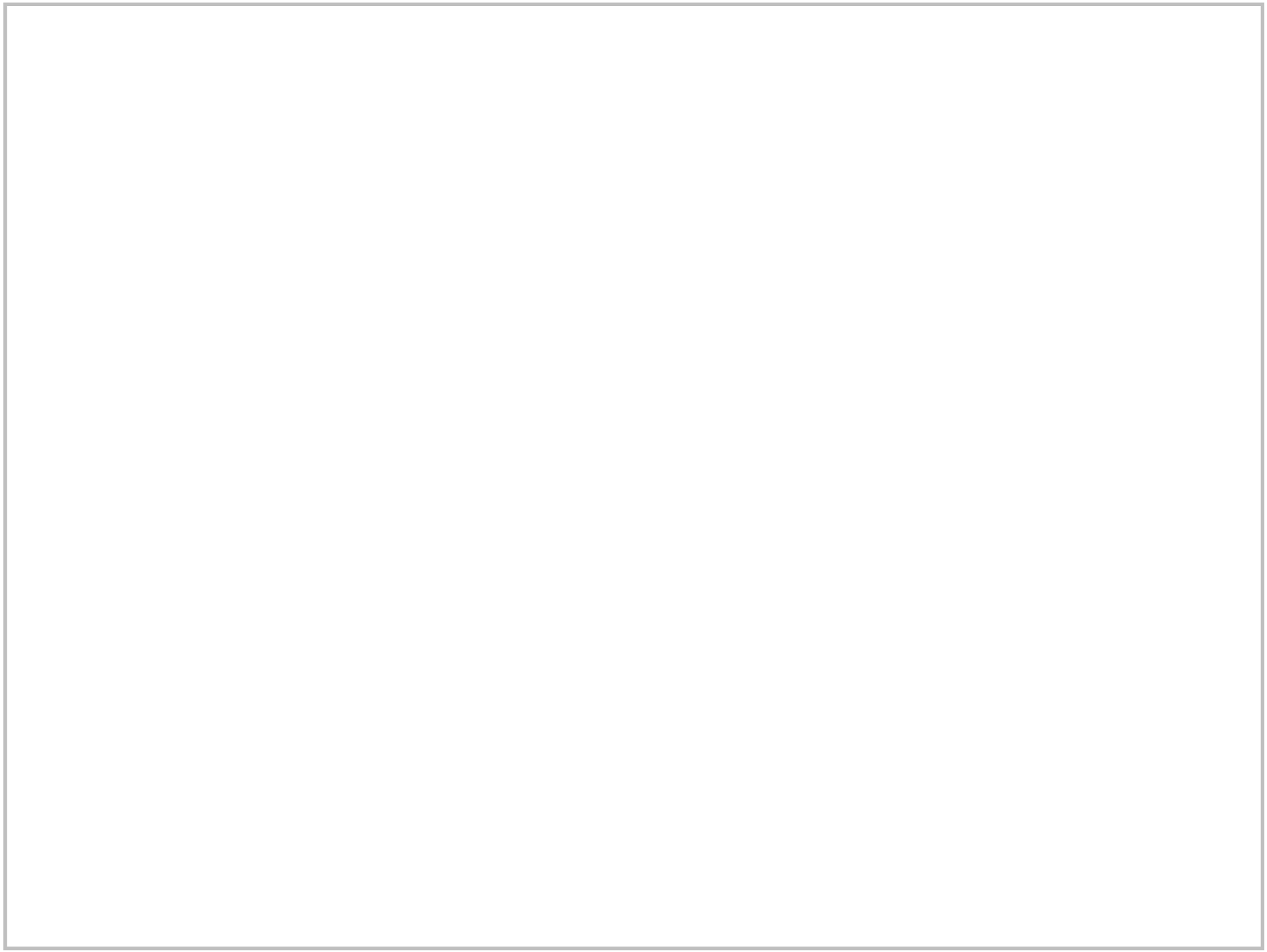
$y + 6 = \frac{-8}{5}x + 24$

$y = \frac{-8}{5}x + 18$

$y =$



Title: Sep 10-12:09 PM (4 of 10)



Title: Sep 10-12:09 PM (5 of 10)

Evaluating functions:

22 $f(a) = 2a + 3$

$f(-5) = 2(-5) + 3$

$= -10 + 3$

$= -7$

$f(-3) = 2(-3) + 3 = -3$

$f(\frac{1}{2}) = 2(\frac{1}{2}) + 3$

$1 + 3 = 4$

$f(4) = 2(4) + 3$

$8 + 3 = 11$

Identifying functions:

Vertical Line Test } no repeated x-values

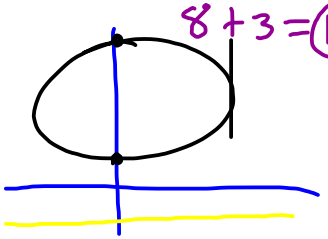


Table of values:

$3x + 5y = 100$

x	3	12	-8	$26.\overline{66}$ (80/3)	10
y	$\frac{91}{5}$	$\frac{64}{5}$	$\frac{124}{5}$	4	70/5 = 14

Strategy 1

solve from Standard form

$3(3) + 5y = 100$

$5y = 91$

$y = \frac{91}{5}$

Strategy 2

solve for $y = mx + b$

$\frac{5y}{5} = \frac{-3x + 100}{5}$

$y = \frac{-3}{5}x + 20$

$y = \frac{-3}{5}(3) + 20 = \frac{-9}{5} + \frac{100}{5}$

$= 91/5$

Desmos lab:

Please complete desmos lab by Monday 9/16

Linear

$y = mx + b$

$y = |x|$ Absolute value

$y = x^2$ $\rightarrow y = ax^2 + bx + c$ Quadratic

$y = \sqrt{x}$ square root

$y = x^3$ cubic $y = \sqrt[3]{\ }$ cube root

$y = \frac{1}{x}$ "Inverse variation" (Reciprocal)

Quadratic

$y = x^2$

Linear

Domain (input): $(-\infty, \infty)$ interval

"all real numbers"

set builder $\{x \mid x \in \mathbb{R}\}$

such that | element of | all real numbers

Range (output) $(-\infty, \infty)$

"all real numbers"

$\{y \mid y \in \mathbb{R}\}$

Quadratic

$y = x^2$

Domain: $(-\infty, \infty)$

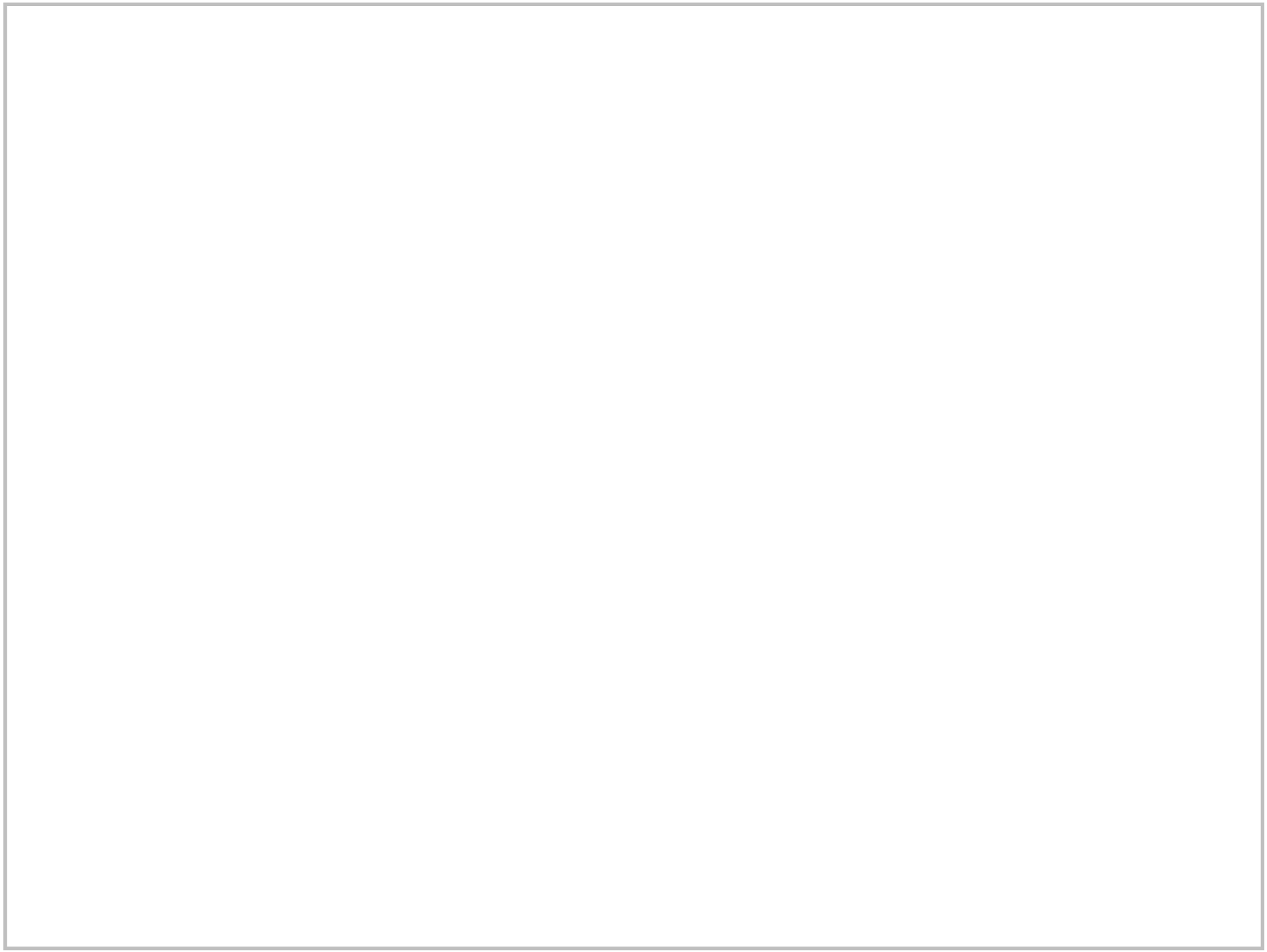
$\{x \mid x \in \mathbb{R}\}$

Range: $[0, \infty)$

$y = x^2 + 5$

included

$\{y \mid y \geq 0\}$



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