

**BE-1A** TUESDAY 11-30-10

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SOLVE:

①  $2x + 6 = 5x - 9$

②  $3x - 2y = 15$  for  $y$

③  $\frac{5x}{8} = \frac{7}{2}$

④ WHAT KIND OF EQUATION IS #③?

⑤ DEFINE A RELATION

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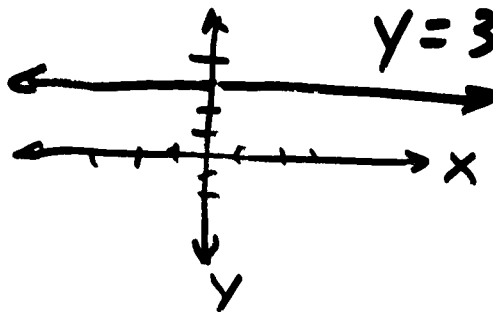
• Homework review: Pg 221 #28-31

# Two special lines:

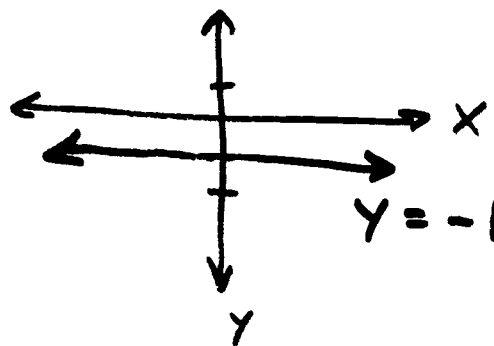
## HORIZONTAL LINES

Ⓔ  $y = 3$

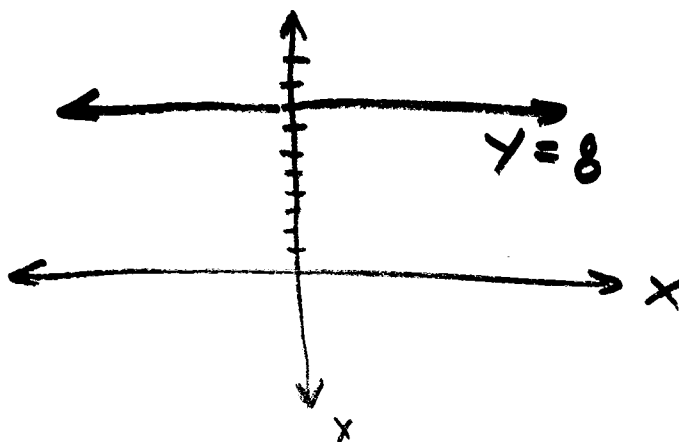
| x        | y=3 |
|----------|-----|
| -2       | 3   |
| -1       | 3   |
| 0        | 3   |
| 1        | 3   |
| 2        | 3   |
| Anything | 3   |



Ⓔ  $y = -1$



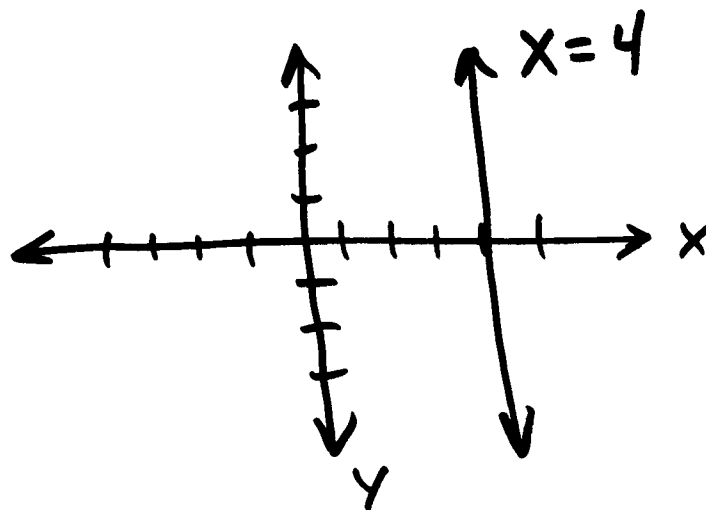
Ⓔ  $y = 8$



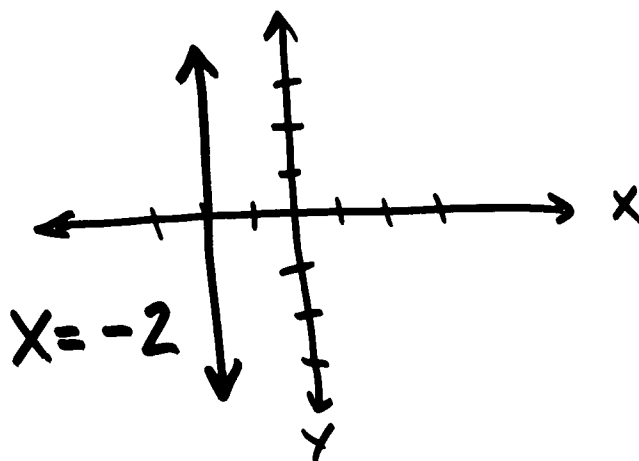
# VERTICAL LINES $\updownarrow$

Ex  $X = 4$

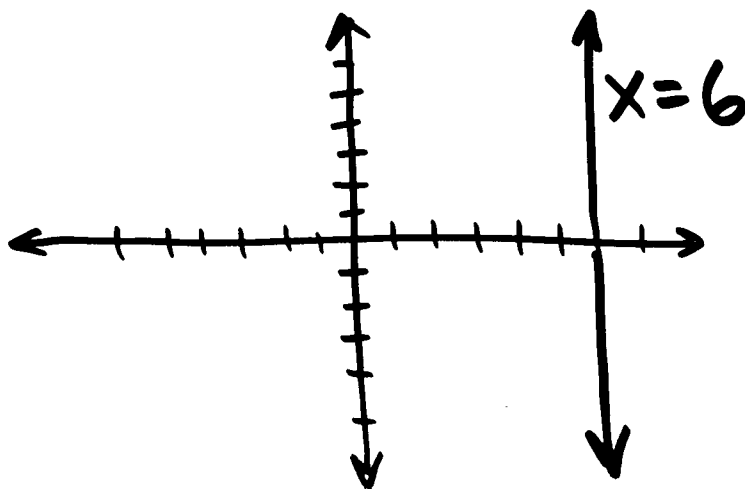
| X | Y        |
|---|----------|
| 4 | ANYTHING |
| 4 | ANYTHING |
| 4 | ANYTHING |



Ex  $X = -2$



Ex  $X = 6$



PRACTICE: GRAPH  $x + 4y = 10$

Solve for  $y$ :  $x + 4\overset{\downarrow}{y} = 10$

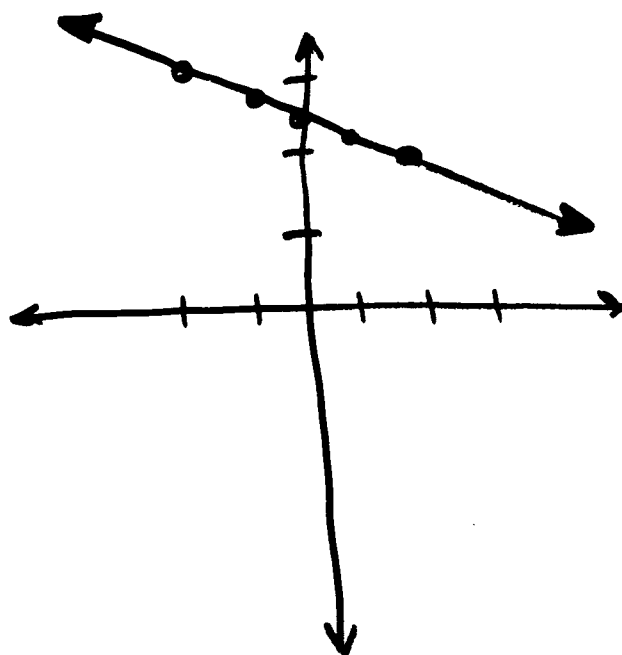
$-x$

$-x$

$$\frac{4y}{4} = \frac{-x + 10}{4}$$

$$y = -\frac{1}{4}x + \frac{5}{2}$$

| $x$ | $-\frac{1}{4}x + \frac{5}{2} = y$                                                              |
|-----|------------------------------------------------------------------------------------------------|
| -2  | $-\frac{1}{4}(-2) + \frac{5}{2}$<br>$\frac{1}{2} + \frac{5}{2} = \frac{6}{2} = 3$              |
| -1  | $-\frac{1}{4}(-1) + \frac{5}{2}$<br>$\frac{1}{4} + \frac{10}{4} = \frac{11}{4} = 2\frac{3}{4}$ |
| 0   | $\frac{5}{2} = 2\frac{1}{2}$                                                                   |
| 1   | $-\frac{1}{4}(1) + \frac{5}{2}$<br>$-\frac{1}{4} + \frac{10}{4} = \frac{9}{4} = 2\frac{1}{4}$  |
| 2   | $-\frac{1}{4}(2) + \frac{5}{2}$<br>$-\frac{1}{2} + \frac{5}{2} = \frac{4}{2} = 2$              |



GRAPH:  $4x + 3y = 12$

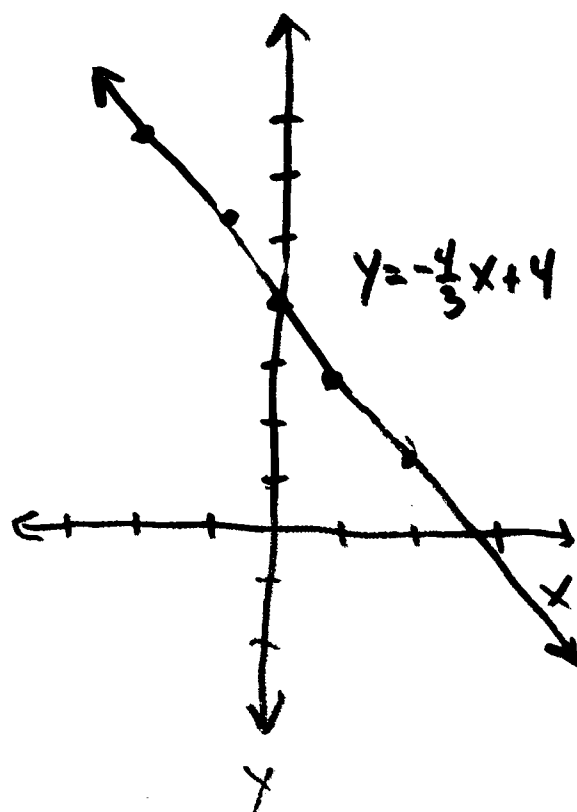
$$-4x$$

$$-4x$$

$$\frac{3y}{3} = \frac{-4x + 12}{3}$$

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

| $x$ | $-\frac{4}{3}x + 4 = y$                                                                        |
|-----|------------------------------------------------------------------------------------------------|
| -2  | $-\frac{4}{3}(-2) + \frac{4}{1}$<br>$\frac{8}{3} + \frac{12}{3} = \frac{20}{3} = 6\frac{2}{3}$ |
| -1  | $-\frac{4}{3}(-1) + \frac{4}{1}$<br>$\frac{4}{3} + \frac{12}{3} = \frac{16}{3} = 5\frac{1}{3}$ |
| 0   | 4                                                                                              |
| 1   | $-\frac{4}{3}(1) + \frac{4}{1}$<br>$-\frac{4}{3} + \frac{12}{3} = \frac{8}{3} = 2\frac{2}{3}$  |
| 2   | $-\frac{4}{3}(2) + \frac{4}{1}$<br>$-\frac{8}{3} + \frac{12}{3} = \frac{4}{3} = 1\frac{1}{3}$  |



Homework:

Pg. 221 #26, 27, 32, 33, 34

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