

7.1  
p.479

ex 4  $x + 2y = 5$

x	y
0	$\frac{5}{2}$
5	0
2	$\frac{3}{2}$
1	2

y intercept  $\rightarrow$  0

x intercept  $\rightarrow$  5

$$0 + 2y = 5$$

$$2y = \frac{5}{2}$$

$$y = \frac{5}{2}$$

$$x + 2 \cdot 0 = 5$$

$$x = 5$$

$$2 + 2y = 5$$

$$-2 \quad -2$$

$$2y = 3$$

$$\frac{2y}{2} = \frac{3}{2}$$

$$y = \frac{3}{2}$$

$$x + 2 \cdot 2 = 5$$

$$x + 4 = 5$$

$$x = 1$$

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ex 8  $5x + 2y = 10$

x intercept  $(\underline{2}, 0)$

y intercept  $(0, \underline{5})$

$$5x + 2 \cdot 0 = 10$$

$$5x = 10$$

$$x = 2$$

$$5 \cdot 0 + 2y = 10$$

$$2y = 10$$

$$y = 5$$

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ex 14  $y = -3$

$y_{int.}$   
 $(0, -3)$

no  $x_{int.}$

ex 16  $x - 4 = 0$   
 $x = 4$

$x_{int.}$   
 $(4, 0)$

no  $y_{int.}$

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ex 26  $(5, 2)$   $(-1, 8)$

$$\frac{8 + 12}{2}$$

$$\frac{0 + 20}{2}$$

$$148 + \frac{222 - 148}{2} = x$$

$$148 + 37 = x \text{ (185)}$$

$$\frac{148 + 222}{2} = x \text{ (185)}$$

$$(5, 2) \quad (-1, 8)$$

$$\text{midpt. } \left( \frac{5 + (-1)}{2}, \frac{2 + 8}{2} \right)$$

$$\left( \frac{4}{2}, \frac{10}{2} \right)$$

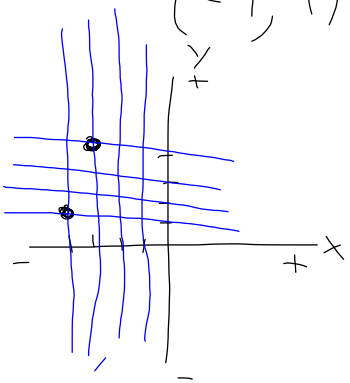
$$(2, 5)$$

$(x_1, y_1) \quad (x_2, y_2)$

midpt.  $\left( \frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2} \right)$

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ex 38



$(-4, 1)$  &  $(-3, 4)$

rise ↓  
run ↔

$$\frac{1-4}{-4+3} = \frac{-3}{-1} = 3$$

uphill

$$\frac{4-1}{-3+4} = \frac{3}{1} = 3$$

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

$\frac{y_2 - y_1}{x_2 - x_1}$

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ex 40

$(-3, -3)$  &  $(5, 6)$

$$\frac{6 - (-3)}{5 - (-3)} = \frac{9}{8} \quad \text{or} \quad \frac{-3 - 6}{-3 - 5} = \frac{-9}{-8} = \frac{9}{8}$$

positive uphill

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negative downhill

0 / # zero horizontal

# / 0 undefined vertical

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ex 62

$$x + 3y = -6$$

$$y = mx + b$$

x	y
0	-2
-6	0

monter

$$\frac{3y}{3} = \frac{-x}{3} - \frac{6}{3}$$

$$y = \left(-\frac{1}{3}\right)x - 2$$

$$\frac{0 - (-2)}{-6 - 0} = \frac{2}{-6} = \left(-\frac{1}{3}\right)$$

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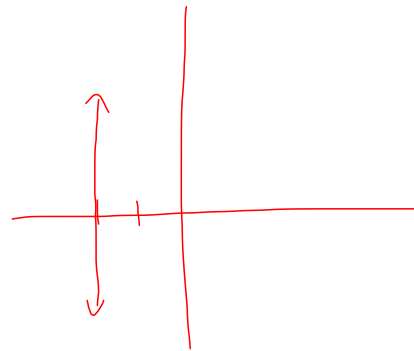
ex 68

$$x + 2 = 0$$

$$x = -2$$

$$(-2, 0)$$

$$(-2, 26)$$



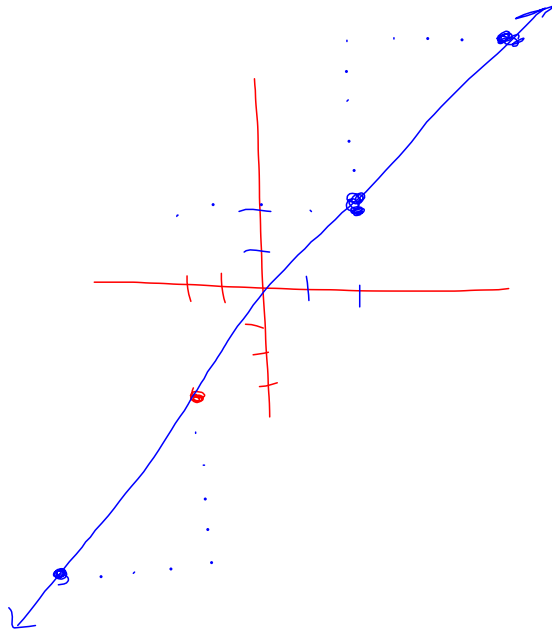
$$\frac{26 - 0}{-2 - (-2)} = \frac{26}{0} \text{ undef'd}$$

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ex 72 through  $(-2, -3)$

$$m = \frac{5}{4} \begin{matrix} \text{up} \\ \text{right} \end{matrix}$$

$$= \frac{-5}{-4} \begin{matrix} \text{down} \\ \text{left} \end{matrix}$$

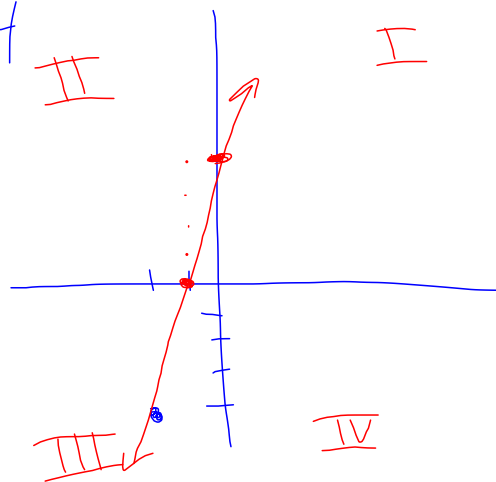


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ex 76

$(-2, -4)$   $m = 4$

$$\frac{4}{1}$$



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ex 84

$$2x + 5y = -7$$

$$\begin{array}{r} -2x \\ \hline 5y = \left(\frac{-2}{5}\right)x - \frac{7}{5} \end{array}$$

$$5x - 2y = 1$$

$$\begin{array}{r} -5x \\ \hline -2y = \left(\frac{-5}{-2}\right)x + \frac{1}{-2} \end{array}$$

Same  
slope  
parallel ||

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opposite & reciprocals  
perpendicular ⊥

perpendicular

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