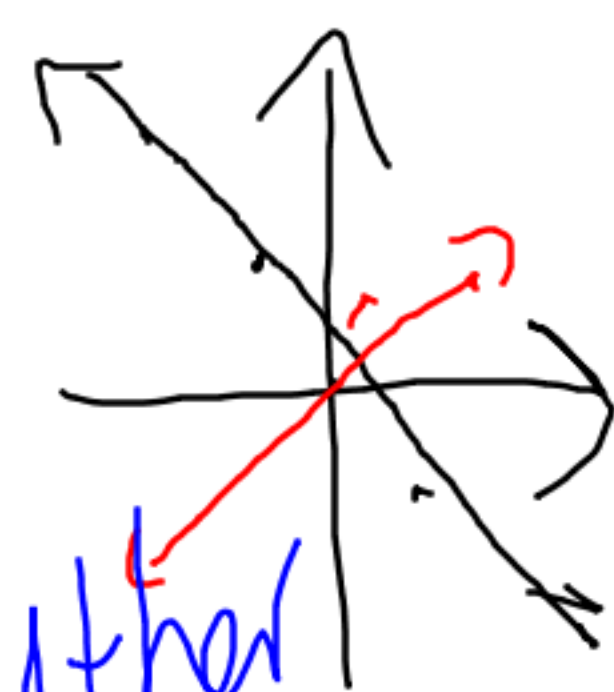


P. 437 Parallel + Perpendicular Lines

1. $m_1 = \frac{2}{3}$ $m_2 = \frac{3}{2}$ neither June 10

3. $m_1 = -\frac{3}{1}$ $m_2 = \frac{1}{3}$ $\perp$

6. $m_1 = 2$ $m_2 = -\frac{1}{2}$ neither



7.

$$m_1 = \frac{20}{25} = \frac{4}{5}$$

$$m_2 = \frac{4}{5}$$

$$\therefore m_1 // m_2$$

16. undefined

11.

$$m = \frac{3}{1}$$

$m //$ undefined

$$m // = \frac{6}{2}, \frac{12}{4}, \frac{3}{1}$$

$$m_{\perp} = 0$$

$$m_{\perp} = \frac{1}{m}$$

$$17. \quad y = 2x - 4$$

$$m = 2$$

$$m_{//} = \frac{2}{1}$$

$$m_{\perp} = -\frac{1}{2}$$

$$18. \quad y = -x - 2$$

$$m = -1$$

$$m_{//} = -\frac{1}{1}$$

$$m_{\perp} = \frac{1}{1} = 1$$

$$20. y = -\frac{2}{7}x$$

$$m = -\frac{2}{7}$$

$$m_{//} = -\frac{2}{7}$$

$$m_{\perp} = \frac{7}{2}$$

$$23. \quad 2x - y = 8$$

$$2x - 8 = y$$

$$m = 2$$

$$m_{//} = 2$$

$$m_{\perp} = -\frac{1}{2}$$

27. //, $\perp$, neither?

$$x - y + 1 = 0$$

$$4x + 4y + 1 = 0$$

$$x + 1 = y$$

$$\frac{4y}{4} = \frac{-4x - 1}{4}$$

$$m_1 = 1$$

$$m_{//} = 1$$

$$\therefore m_1 \perp m_2$$

$$m_{//} = -1$$

and the
lines are
perpendicular

$$y = -1x - \frac{1}{4}$$

$$m = -1$$

$$y = mx + b$$

ch

32. Find the ^{$(y = mx + b)$} equation of the line
parallel to $2x - 3y + 1 = 0$
and thru $(1, 2)$

① find the slope $+3y$
 $2x - 3y + 1 = 0$

$$2x + 1 = 3y$$
$$y = \frac{2}{3}x + \frac{1}{3}$$

$$\therefore m = \frac{2}{3}$$

(2) find b

$$m = \frac{2}{3} \text{ thru } (1, 2)$$

$$y = mx + b$$

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

$$\begin{array}{r} \cancel{2} \times 3 \\ 1 \times 3 \end{array} = \frac{\cancel{2} \times 3}{\cancel{3} \times 1} + b$$

$$b = \frac{4}{3}$$

(3) The equation is

$$y = mx + b$$

$$y = \frac{2x}{3} + \frac{4}{3}$$

Standard form

$$3y = 2x + 4$$

$$0 = 2x - 3y + 4$$

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33. Find the equation of the line perpendicular ($\perp$) to $x - 5y + 2 = 0$ and passing $(-2, 5)$

① Find m

$$x - 5y + 2 = 0$$

$$x + 2 = 5y$$

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

$$m = \frac{1}{5}$$

(2) Find b $\rightarrow$ y intercept

$$y = mx + b$$

$$5 = \frac{1}{5}(-2) + b$$

$$\frac{5 \times 5}{1 \times 5} + \frac{2}{5} = \frac{-2 + 2}{5} + b$$
$$\frac{25}{5} + \frac{2}{5} = b$$

$m = \frac{1}{5}$
thru $(-2, 5)$

$$b = \frac{27}{5}$$

Find the equation

$$y = mx + b$$

$$y = \frac{1}{5}x + \frac{27}{5}$$

$$5y = x + 27$$

$$0 = x - 5y + 27$$

standard
form

homework

p. 437

through #35