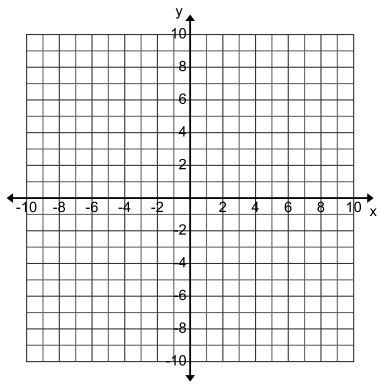
U6D4 Warm Up:

Graph the equation 2x + 5y = -20 using intercepts.

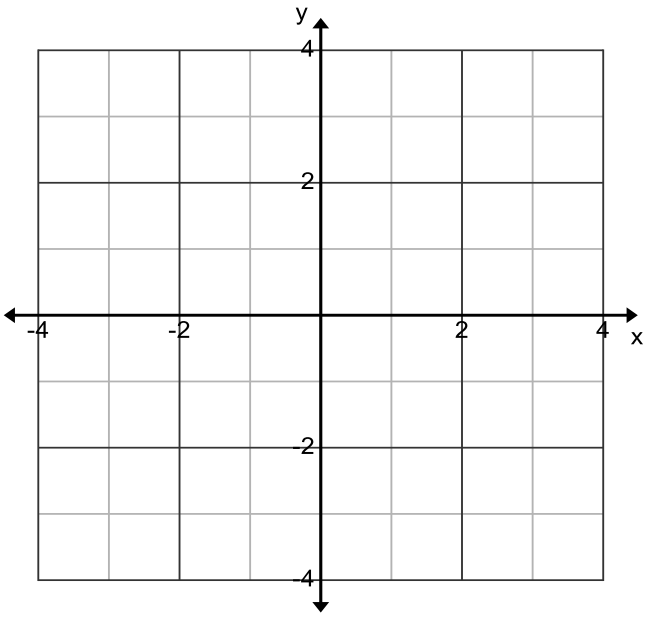


U6D4 ***Parallel and Perpendicular Lines (6.4)***

Definitions:

Parallel Lines : Lines which run in the _____ _____ and never _____.

Perpendicular Lines : Lines which intersect at _____ _____ (_____°)



Graph $y = 2x$, $y = 2x + 2$ and $y = 2x - 3$ on the same grid.

How are these lines related?

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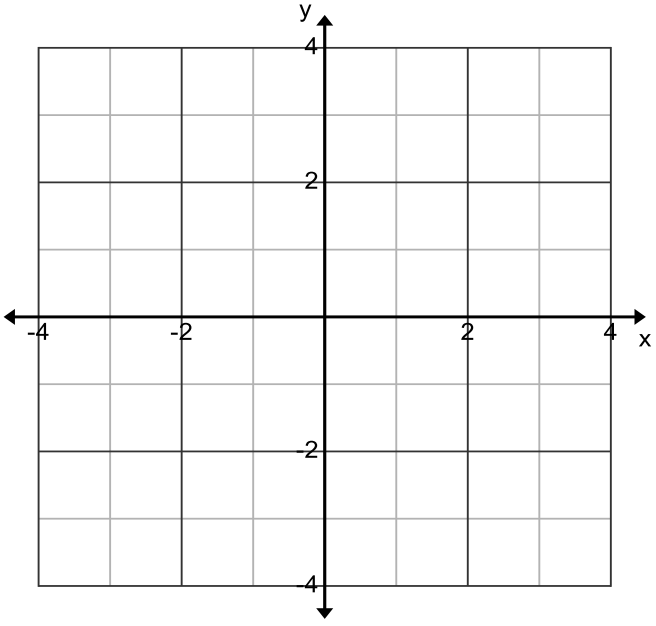

Graph $y = -\frac{1}{2}x$, $y = -\frac{1}{2}x + 3$ and $y = 2x - 2$ on the same grid.

How are these lines related?

Example 1: Are the following lines with given slopes, parallel, perpendicular or neither?

a. $m = 2, \quad m = -\frac{1}{2}$ b. $m = -\frac{2}{3}, \quad m = -\frac{2}{3}$ c. $m = -2, \quad m = \frac{2}{4}$

d. $m = 0.75, \quad m = -\frac{3}{4}$ e. $m = 1, \quad m = -1$

Example 2: Give the slope of a line parallel to $y = \frac{2}{5}x - 3$.

Example 3a: Give the slope of a line perpendicular to $y = \frac{1}{3}x + 2$.

Example 3b: Give the slope of a line perpendicular to $y = 3$.

Example 4: Write an equation of a line parallel to $4x - 3y + 1 = 0$

Example 5: Write an equation of a line perpendicular to $5x + 2y - 3 = 0$

Example 6: If (2,5) and (8,14) lie on line A and (5,3) and (11,12) lie on line B, determine if A and B are parallel, perpendicular or neither.

U6D4 HW: page 328-329 #1(bd),2,3, 4(acef), 5(acef),6,7,8,10