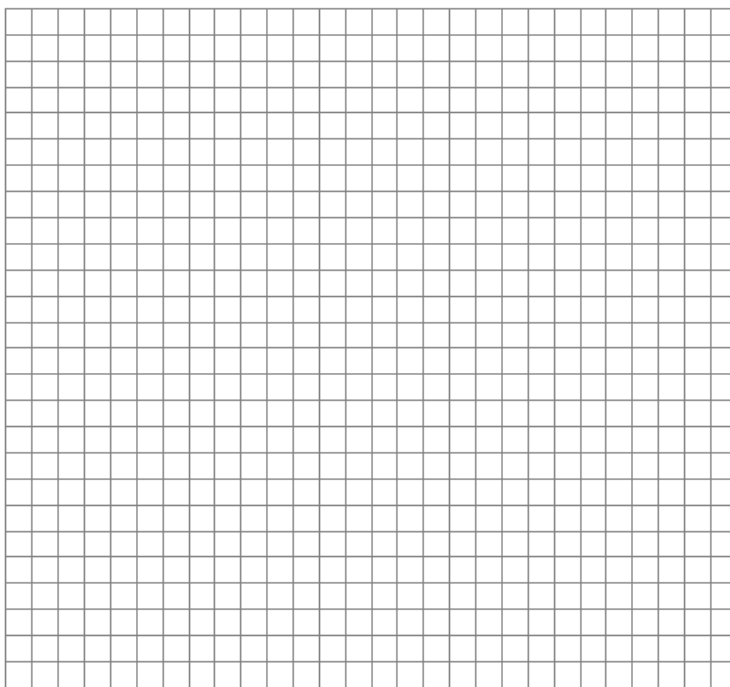


Formula(s):

Complete an example →

Describe the procedures & steps  
in detail:



Additional Info:

Formula(s): $\text{Slope} = m = \frac{\Delta y}{\Delta x} = \frac{y_2 - y_1}{x_2 - x_1}$	Point-Slope $y - y_1 = m(x - x_1)$ ↑ slope (x, y) any point on line	$Ax + By = C$ General Form
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$y = mx + b$   
↑ slope    ↑ y-int.    Slope-Intercept

Parallel  $\Rightarrow$  same slope // Perpendicular  $\Rightarrow$  Neg. Recip. slope

Complete an example  $\rightarrow$

WRITE AN EQUATION OF A LINE PARALLEL TO  $4x - 5y = 3$  AND THROUGH  $(9, -6)$

List the procedures & steps:

1. Be sure to have a pt and slope before writing Eq. of line
2. I didn't have slope, so use parallel equation, rearrange it and get its slope  
Parallel  $\Rightarrow$  same slope
3. Now that I have point & slope, use  $y - y_1 = m(x - x_1)$
4. Sub in point and slope  
Note  $y - (-6)$  was written  $y + 6$
5. Distribute  $\frac{4}{5}$  into  $(x - 9)$
6. Subtract 6 over ... rewrite as a fraction with denomin. of 5 so its easier to add to  $-\frac{36}{5}$ .
7. This form is fine for Brigit's quizzes or tests. Math XL wants it in General Form
8. Multiply by denom. to clear fraction and rearrange in

1. Point:  $(9, -6)$       Slope =  $m =$  \_\_\_\_\_

2. 
$$4x - 5y = 3$$
  

$$-5y = -4x + 3$$
  

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

$$y = \left(\frac{4}{5}\right)x - \frac{3}{5}$$
       $\rightarrow$  Slope =  $\frac{4}{5}$

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

4.  $y + 6 = \frac{4}{5}(x - 9)$

5.  $y + 6 = \frac{4}{5}x - \frac{4}{5}(9)$

6.  $y + 6 = \frac{4}{5}x - \frac{36}{5}$        $\frac{-36}{5} - \frac{30}{5} = \frac{-96}{5}$   

$$-6 \qquad \qquad \qquad -6$$

7.  $y = \frac{4}{5}x - \frac{96}{5}$

8.  $5(y) = 5\left(\frac{4}{5}x\right) - \left(\frac{96}{5}\right)5$   

$$5y = 4x - 96$$
  

$$-4x \quad -4x$$
  

$$-4x + 5y = -96$$
      Mult. (-1)

Additional Info:  $Ax + By = C$      $4x - 5y = 96$

If I was given a question asking for "perpendicular to  $4x - 5y = 3$ ", then if slope =  $\frac{4}{5}$ , my perpendicular slope =  $-\frac{5}{4}$