

NAME: \_\_\_\_\_

*P.I. G.G.64: Find the equation of a line, given a point on the line and the equation of a line perpendicular to the given line*

1. Write the standard form of the equation of the line passing through the point  $(1, 5)$  and perpendicular to the line  $4x - 7y = -28$ .

[A]  $7x + 4y = 27$       [B]  $-7x - 4y = 27$   
[C]  $4x + 7y = 39$       [D]  $4x - 7y = -39$

2. Write the standard form of the equation of the line passing through the point  $(-2, 2)$  and perpendicular to the line  $5x - y = -4$ .

[A]  $5x - y = 8$       [B]  $x + 5y = 8$   
[C]  $5x + y = -8$       [D]  $-x - 5y = 8$

3. Write the standard form of the equation of the line passing through the point  $(1, -1)$  and perpendicular to the line  $3x - 4y = 20$ .

[A]  $-4x - 3y = 1$       [B]  $3x + 4y = -1$   
[C]  $3x - 4y = 1$       [D]  $4x + 3y = 1$

4. Write the standard form of the equation of the line passing through the point  $(-5, 3)$  and perpendicular to the line  $-2x - 3y = -6$ .

[A]  $-2x - 3y = -19$   
[B]  $3x - 2y = -21$       [C]  $-2x + 3y = 19$   
[D]  $-3x + 2y = -21$

5. Write the standard form of the equation of the line passing through the point  $(2, -2)$  and perpendicular to the line  $-4x - 7y = -28$ .

[A]  $7x - 4y = 22$       [B]  $-4x - 7y = 22$   
[C]  $-7x + 4y = 22$   
[D]  $-4x + 7y = -22$

6. Give the slope-intercept form of the equation of the line that is perpendicular to  $8x + 5y = -7$  and contains  $(5, 3)$ .

7. Give the slope-intercept form of the equation of the line that is perpendicular to  $3x + 8y = -8$  and contains  $(9, 7)$ .

8. Give the slope-intercept form of the equation of the line that is perpendicular to  $5x + 6y = 2$  and contains  $(-9, -3)$ .

9. Give the slope-intercept form of the equation of the line that is perpendicular to  $8x + 5y = 6$  and contains  $(6, 0)$ .

10. Give the equation of a line perpendicular to  $y = -3x + 2$ .

[1] A

[2] B

[3] D

[4] B

[5] A

[6]  $y = \frac{5}{8}x - \frac{1}{8}$   
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[7]  $y = \frac{8}{3}x - 17$   
\_\_\_\_\_

[8]  $y = \frac{6}{5}x + \frac{39}{5}$   
\_\_\_\_\_

[9]  $y = \frac{5}{8}x - \frac{15}{4}$   
\_\_\_\_\_

[10] Answers may vary. Sample:  $y = \frac{x}{3} - 1$   
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