

Name: _____

CC Geometry Homework

Writing Equations of Lines (Point Slope Form)

- 1) What is an equation of the line that is parallel to x-axis and that passes through the point (1,5)?
- A) $y = 1$ C) $x = 5$
B) $y = 5$ D) $x = 1$
- 2) An equation of the line parallel to the line $2y - x = 8$ and passing through the point (5,7) is
- A) $y - 7 = \frac{1}{2}(x - 5)$
B) $y - 5 = \frac{1}{2}(x - 7)$
C) $y + 5 = 2(x + 7)$
D) $y - 7 = 2(x - 5)$
- 3) Write an equation of the line whose slope is $-\frac{3}{2}$ and that passes through the point (-2,1).
- 4) Write an equation of the line that is parallel to y-axis and that passes through the point (-2,3).
- 5) Write an equation of the line that passes through the points (5,2) and (2,8).

- 6) Write an equation of the line perpendicular to the line $5x - 2y = -3$ and passing through the point $(2, -1)$.
- 7) Write an equation of the line parallel to the line $3x = 5y - 1$ and passing through the point $(2, -8)$.
- 8) Write an equation of the line perpendicular to the line $2y + 5x = -10$ and passing through the point $(-5, -7)$.
[*Show all work.*]

1) B 2) A

3) $y = -\frac{3}{2}x - 2$

4) $x = -2$

5) $y = -2x + 12$

6) SAMPLE ANSWER: $y + 1 = -\frac{2}{5}(x - 2)$

7) SAMPLE ANSWER: $y + 8 = \frac{3}{5}(x - 2)$

8) SAMPLE ANSWER: $y + 7 = \frac{2}{5}(x + 5)$

WORK SHOWN: $2y + 5x = -10$, $2y = -5x - 10$, $y = -\frac{5}{2}x - 5$; $m = -\frac{5}{2}$, $-\frac{1}{m} = \frac{2}{5}$, $m_{\perp} = \frac{2}{5}$; $y - y_1 = m(x - x_1)$, $y + 7 = \frac{2}{5}(x + 5)$