Parallel and Perpendicular Lines

1. Write an equation of the line parallel to $y = 3x + 5$ and passing through the point (5,9) in point-slope form. Show all work.

2. Write an equation of the line parallel to $y = \frac{1}{2}x$ and with a y-intercept of (0,4) in slope=intercept form. Show all work.

3. Write an equation of the line parallel to $y - 7 = 7(x - 3)$ and passing through the point (4,2) in point-slope form. Show all work.

4. Write an equation of the line parallel to $y = -7x - 2$ and passing through the point (-9,-12) in slope-intercept form. Show all work.

5. Write an equation of the line perpendicular to $y - 3 = \frac{1}{2}(x - 4)$ and passing through the point (12,24) in slope-intercept form. Show all work.

6. Write an equation of the line perpendicular to $y = -5x + 7$ and with y-intercept (0,-8) in slope-intercept form. Show all work.

7. Write an equation of the line perpendicular to $y = \frac{3}{2}x - 14$ and passing through (4,8) in point-slope form. Show all work.

8. Write an equation of the line perpendicular to $y - 3 = -10(x - 2)$ and with x-intercept (-20,0) in slope-intercept form. Show all work.