Parallel and Perpendicular lines part1

1. State if the following lines are:
   (i) Parallel
   (ii) Perpendicular to each other or
   (iii) Neither parallel nor perpendicular to each other
   (a) $y = 8x - 5$ and $y - 8x = 7$
   (b) $3y + 12x = 15$ and $y - \frac{1}{4}x = 4$
   Provide evidence of your answer in each case.

2. State if the following lines are :
   (i) Parallel
   (ii) Perpendicular to each other or
   (iii) Neither parallel nor perpendicular to each other.
   $4y = 8x - 16$
   $2y = -x + 5$
   Provide evidence of your answer in each case.

3. Draw the graph of the linear equations $y = -2x + 1$ and $y = -2x - 3$ on the same graph paper with the same scale and axes. Prove that the two straight lines are either parallel or perpendicular.

4. Given the linear equations
   $5y = 4x - 10$
   $4y = 12 - 5x$
   $5y - 4x = -15$
   Write down the three equations in the form $y = mx + c$
   Hence state:
   (i) Which pair/s of straight lines are parallel
   (ii) Which pair/s of straight lines are perpendicular
   Provide evidence of your answer in each case.

5. State which of the following pairs of lines are:
   (i) Parallel
   (ii) Perpendicular to each other or
   (iii) Neither parallel nor perpendicular to each other
   a) $10y = 5x + 4$ and $5y + 10x = 8$
   b) $4y = 6x - 9$ and $8y + 11 = 12x$
   c) $7y + 4 = 5x$ and $7y = 9x - 3$