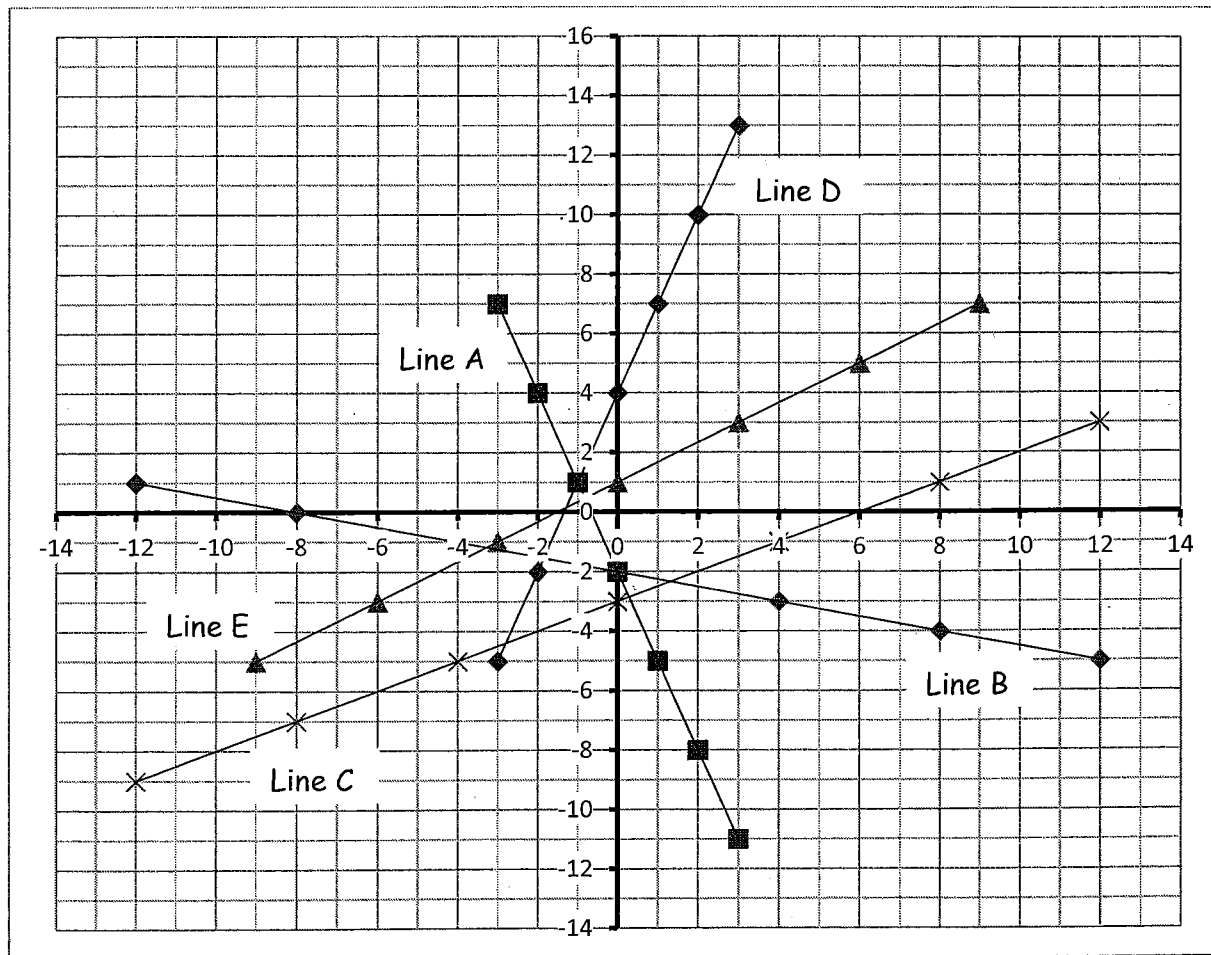


Working with Linear Equations II $\rightarrow Ax + By = C$

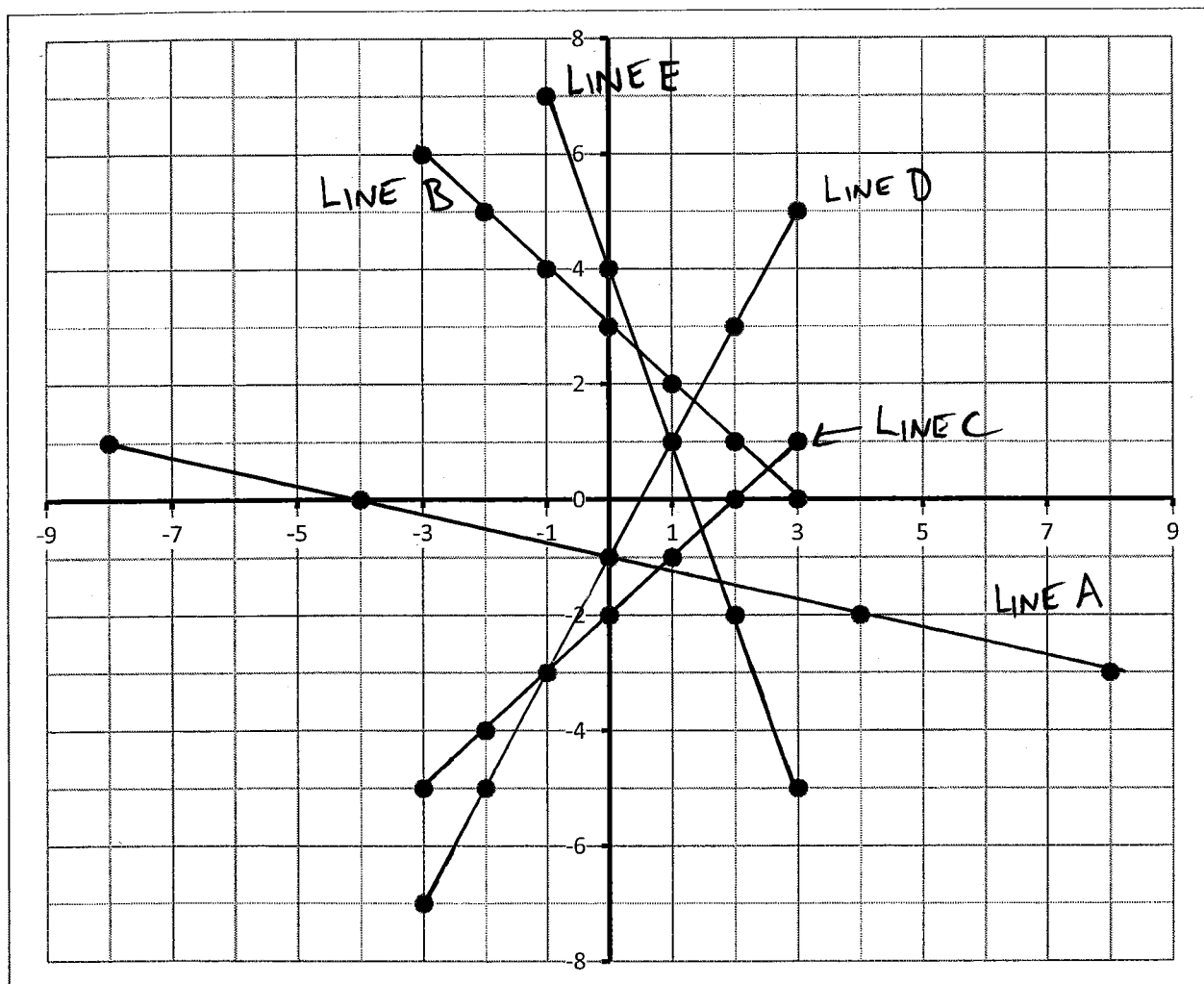
1. Match the following equations to the lines on the graph below. You will need to first change the equation into the proper format ($y = mx + b$). Do this work on a separate piece of paper.

| <u>Equation</u> $Ax + By = C$ | <u>Equation</u> $y = mx + b$ | <u>Line?</u> |
|----------------------------------|--|--------------|
| $3y - 9x = 12$ | $\frac{3y}{3} = \frac{9x+12}{3} \quad y = 3x+4$ | D |
| $5x + 20y = -40$ | $\frac{20y}{20} = \frac{-5x-40}{20} \quad y = -\frac{1}{4}x - 2$ | B |
| $6y - 4x = 6$ | $\frac{6y}{6} = \frac{4x+6}{6} \quad y = \frac{2}{3}x + 1$ | E |
| $-x + 2y = -6$ | $\frac{2y}{2} = \frac{x-6}{2} \quad y = \frac{1}{2}x - 3$ | C |
| $12x + 4y = -8$ | $\frac{4y}{4} = \frac{-12x-8}{4} \quad y = -3x-2$ | A |



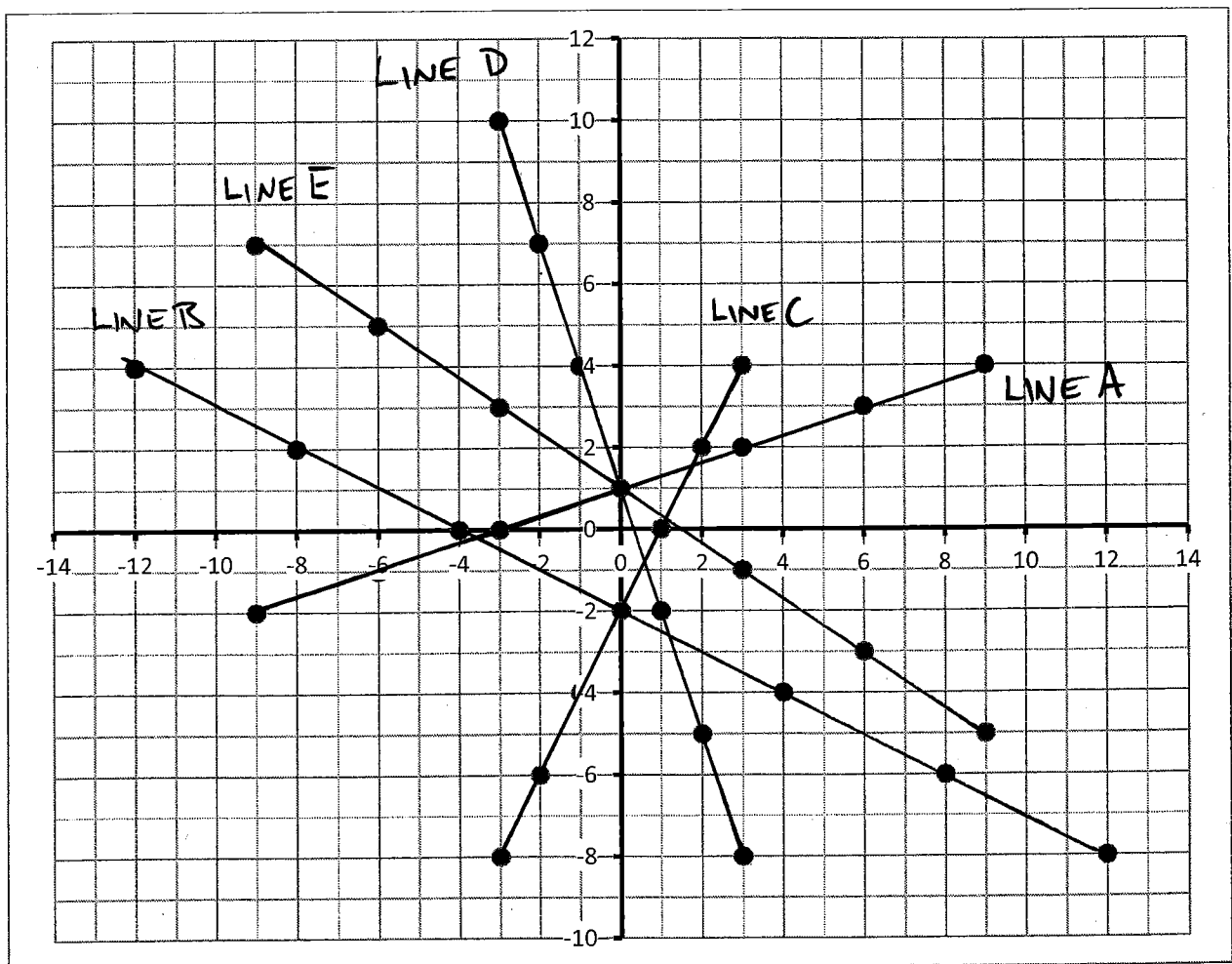
2. Given the equations below, start by changing the equation into the proper format ($y = mx + b$) on a separate piece of paper, and then draw in the appropriate lines. After all lines are drawn, label each line to match the equations.

| <u>Equation</u> $Ax + By = C$ | <u>Equation</u> $y = mx + b$ | <u>Line?</u> |
|----------------------------------|---|--------------|
| $x + 4y = -4$ | $\frac{4y}{4} = \frac{-x-4}{4} \quad y = -\frac{1}{4}x - 1$ | A |
| $25y + 25x = 75$ | $\frac{25y}{25} = \frac{25x+75}{25} \quad y = -x + 3$ | B |
| $-32x + 32y = -64$ | $\frac{32y}{32} = \frac{32x-64}{32} \quad y = x - 2$ | C |
| $-18y + 36x = 18$ | $\frac{-18y}{-18} = \frac{36x+18}{-18} \quad y = 2x - 1$ | D |
| $-15x - 5y = -20$ | $\frac{-5y}{-5} = \frac{15x-20}{-5} \quad y = -3x + 4$ | E |



3. Given the equations below, start by changing the equation into the proper format ($y = mx + b$) on a separate piece of paper, and then draw in the appropriate lines. After all lines are drawn, label each line to match the equations.

| <u>Equation</u> $Ax + By = C$ | <u>Equation</u> $y = mx + b$ | <u>Line?</u> |
|----------------------------------|---|--------------|
| $-6y + 2x = -6$ | $\frac{-6y}{-6} = \frac{-2x-6}{-6} \quad y = \frac{1}{3}x + 1$ | A |
| $-4x - 8y = 16$ | $\frac{-8y}{-8} = \frac{4x+16}{-8} \quad y = -\frac{1}{2}x - 2$ | B |
| $8y - 16x = -16$ | $\frac{8y}{8} = \frac{16x-16}{8} \quad y = 2x - 2$ | C |
| $18x + 6y = 6$ | $\frac{6y}{6} = \frac{-18x+6}{6} \quad y = -3x + 1$ | D |
| $-9y - 6x = -9$ | $\frac{-9y}{-9} = \frac{6x-9}{-9} \quad y = -\frac{2}{3}x + 1$ | E |



4. Using the points from the lines above (question #3 graph), fill in the following table of values with the appropriate coordinates.

Line A

Table of Values

| x | y |
|----|----|
| -9 | -2 |
| -6 | -1 |
| -3 | 0 |
| 0 | 1 |
| 3 | 2 |
| 6 | 3 |
| 9 | 4 |

Line B

Table of Values

| x | y |
|-----|----|
| -12 | 4 |
| -8 | 2 |
| -4 | 0 |
| 0 | -2 |
| 4 | -4 |
| 8 | -6 |
| 12 | -8 |

Line C

Table of Values

| x | y |
|----|----|
| -3 | -8 |
| -2 | -6 |
| -1 | -4 |
| 0 | -2 |
| 1 | 0 |
| 2 | 2 |
| 3 | 4 |

Line D

Table of Values

| x | y |
|----|----|
| -3 | 10 |
| -2 | 7 |
| -1 | 4 |
| 0 | 1 |
| 1 | -2 |
| 2 | -5 |
| 3 | -8 |

Line E

Table of Values

| x | y |
|----|----|
| -9 | 7 |
| -6 | 5 |
| -3 | 3 |
| 0 | 1 |
| 3 | -1 |
| 6 | -3 |
| 9 | -5 |