Do Now: Graphing linear equations, tangent as slope

1. (a) Graph and label the two equations. Mark their intersection as an ordered pair.

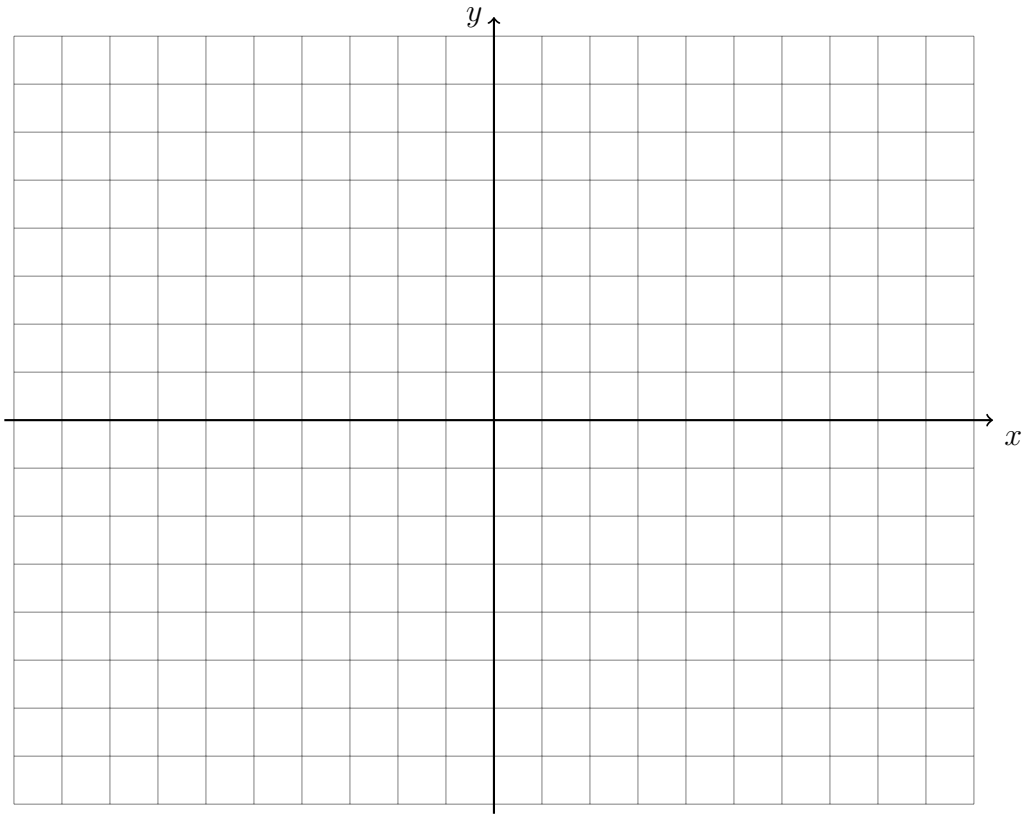
   $y = \frac{2}{3}x - 4$ $4x + 3y = 6$ (4 pts)

   (b) Find the slopes of the two lines. (2 points)

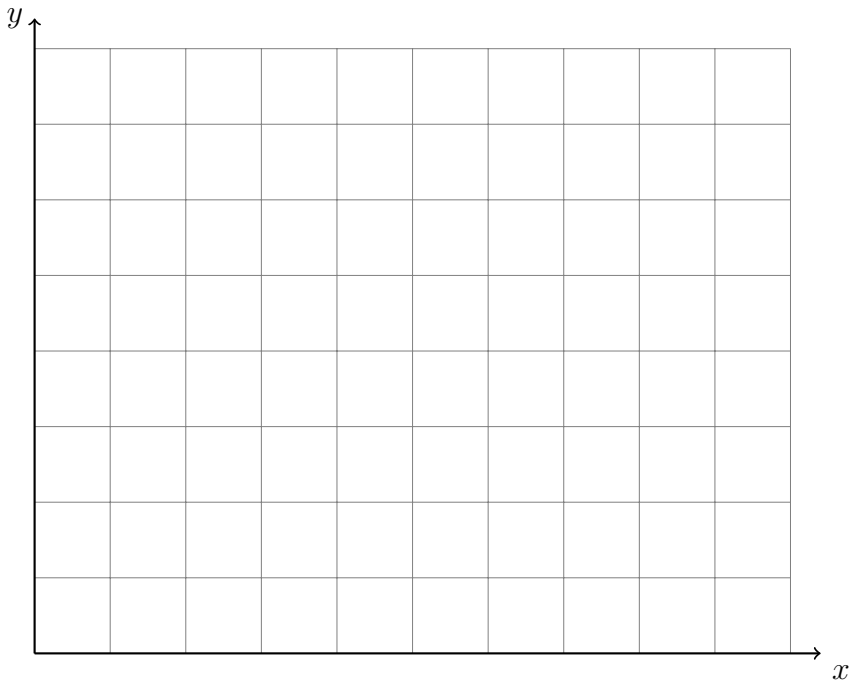
   $m_1 =$ $m_2 =$

   (c) Why is it incorrect to write $m_1 = \frac{2}{3}x$? (1 point)

   (d) Are the lines parallel, perpendicular, or neither? Justify your answer with an equation or inequality using the slopes. (2 points)



2. (a) Graph and label $\triangle ABC$ with $A(0,0)$, $B(7,4)$, and $C(7,0)$.



(b) Find the slope and y-intercept of the line $\overleftrightarrow{AB}$.

$m_{AB} =$ $b_{AB} =$

(c) Write down the equation of each line.

$\overleftrightarrow{AB}$: $\overleftrightarrow{BC}$: $\overleftrightarrow{AC}$:

(d) Find the measure of $\angle BAC$ in degrees with a protractor.

(e) Find the same $m\angle BAC$ with a calculator's inverse tangent function.

$\tan^{-1}(\frac{4}{7}) =$