- **Graph #1** below shows the intersection of the lines $y = 2x - 6$ and $y = -3x + 4$.
- Label each line in Graph #1 with its equation.
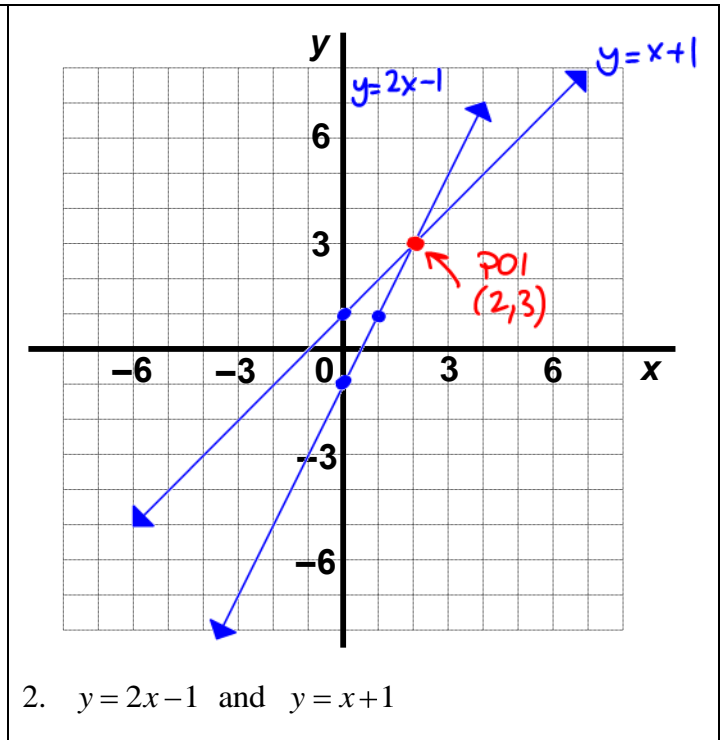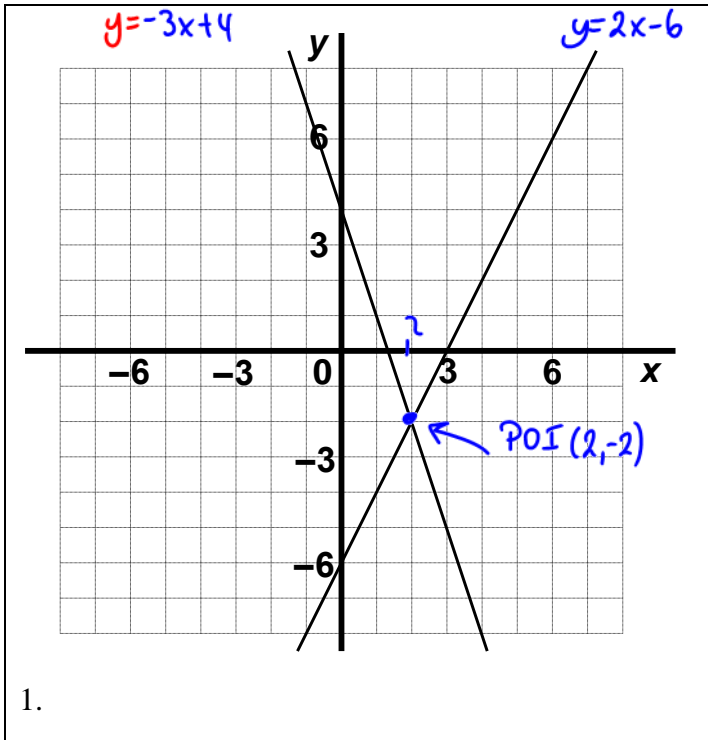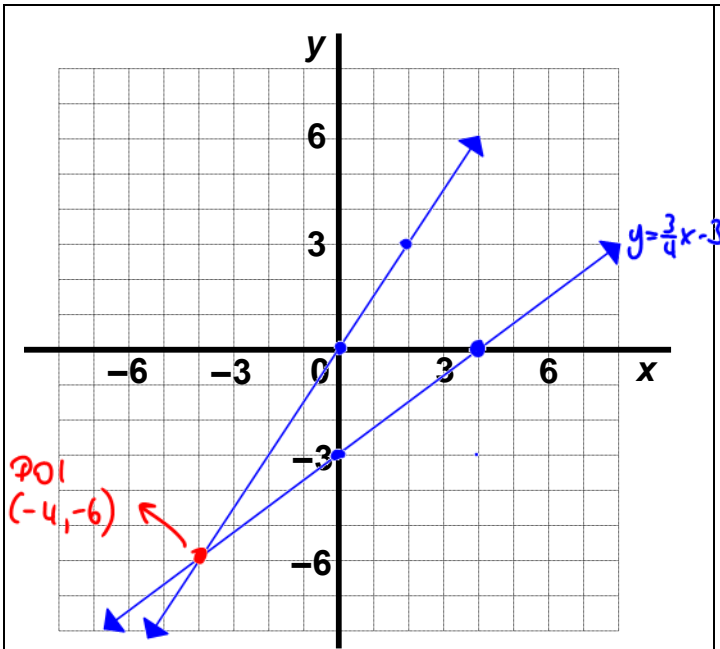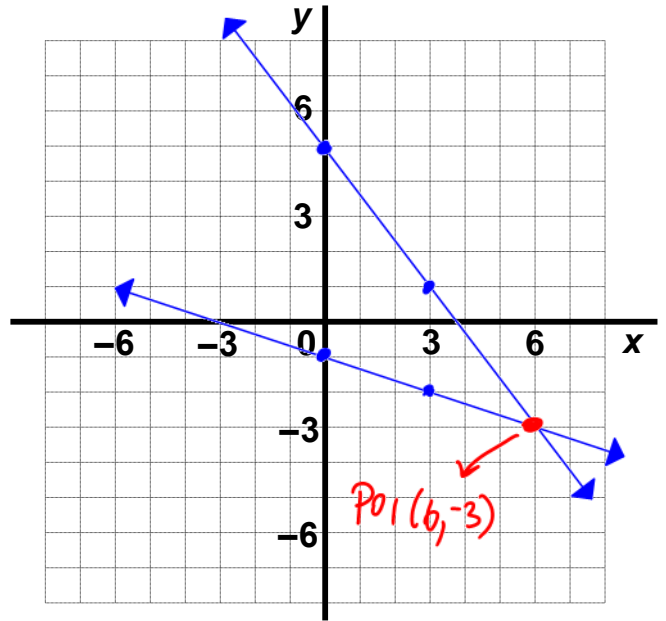- In Graph #1 label the point of intersection with its coordinates.
- *For graphs #2–8, plot both given lines, then label each point of intersection with its coordinates.*

1.

2. $y = 2x - 1$ and $y = x + 1$

3. $y = 3x$ and $y = \frac{1}{2}x + 5$

4. $y = \frac{2}{3}x - 1$ and $y = -x + 4$

$y = \frac{3}{4}x - 3$

POI
$(-4,-6)$

5. $y = \frac{3}{4}x - 3$ and $y = \frac{3}{2}x$

POI $(6,-3)$

6. $y = -\frac{1}{3}x - 1$ and $y = -\frac{4}{3}x + 5$

POI $(-5,5)$

7. $y = \frac{1}{5}x + 6$ and $y = -\frac{2}{5}x + 3$

POI $(3,-2.5)$
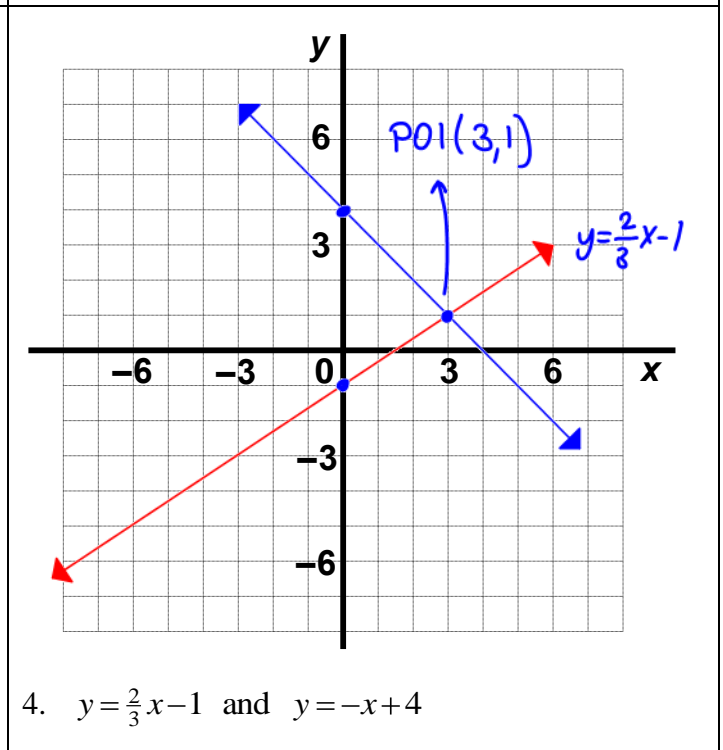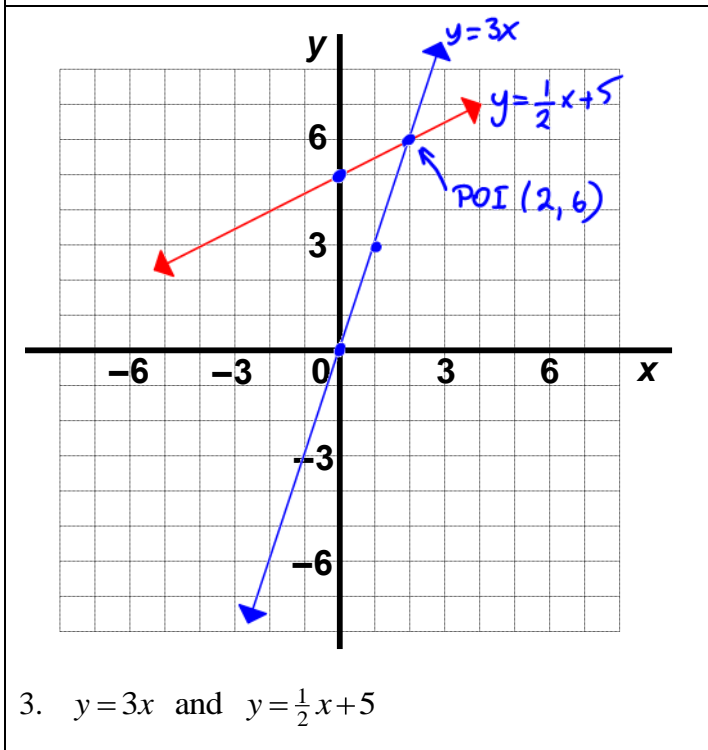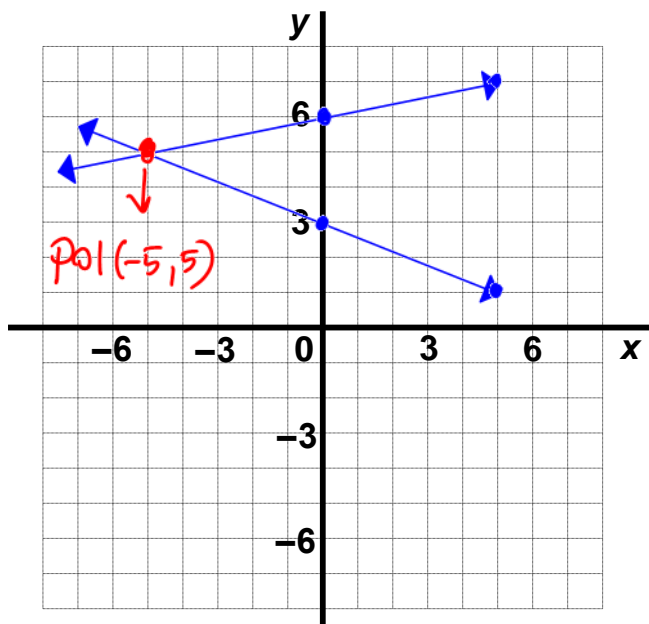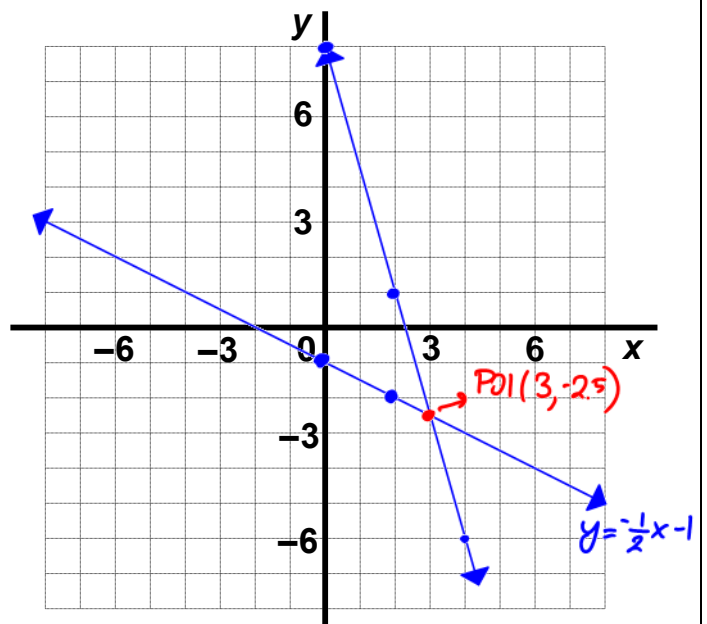
$y = -\frac{1}{2}x - 1$

8. $y = -\frac{1}{2}x - 1$ and $y = -\frac{7}{2}x + 8$

Answers:

1. $(2,-2)$ 2. $(2,3)$ 3. $(2,6)$ 4. $(3,1)$

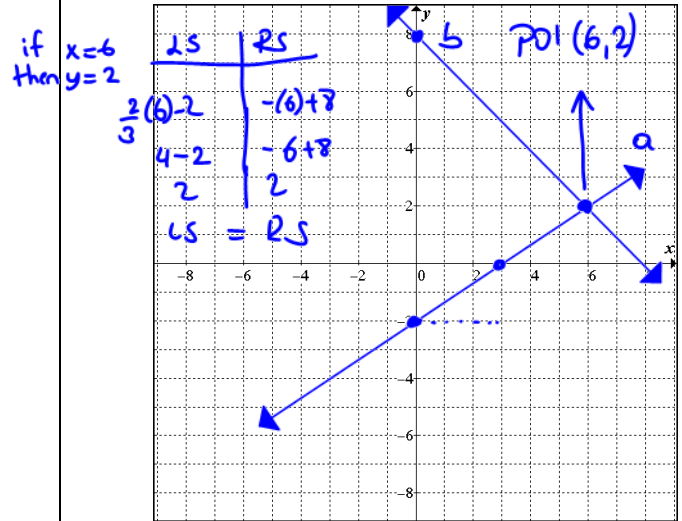5. $(-4,-6)$ 6. $(6,-3)$ 7. $(-5,5)$ 8. $(3, -2.5)$

1. Give:
   a) equation of line *a*: $y = 3x + 7$

   b) equation of line *b*: $y = x - 5$

   c) coordinates of their point
      of intersection: $(3, -2)$

7
$-3 \{$ *a*
1

POI
$(3, -2)$

b
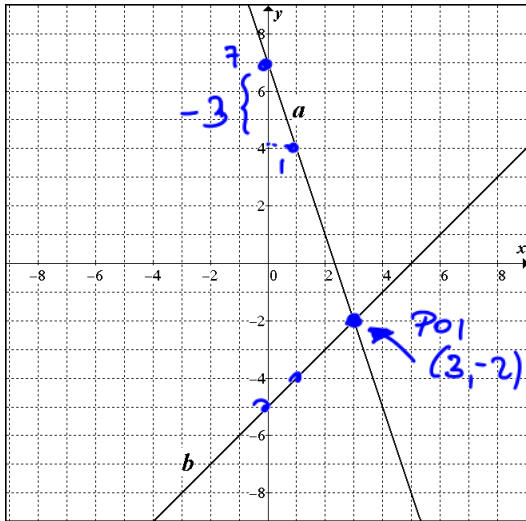
2. Graph the lines $y = \frac{2}{3}x - 2$ and $y = -x + 8$.

   a   **b**

   State the coordinates of their
   point of intersection: $(6, 2)$

   Check your answer in your notebook using
   proper **LS=** and **RS=** form.

if $x = 6$
then $y = 2$

LS	RS
$\frac{2}{3}(6) - 2$	$-(6) + 8$
$4 - 2$	$-6 + 8$
2	2

$LS = RS$

b POI $(6, 2)$

a

3. Complete the tables of values for:
   a $2x + 5y = 10$ and $2x + y + 6 = 0$, **b**

x	*y*
0	2
5	0

x	*y*
0	-6
-3	0

   then graph the lines
   and state the point of intersection: $(-5, 4)$
   Check your answer in your notebook using
   proper **LS=** and **RS=** form.

b
$(-5, 4)$

POI

a
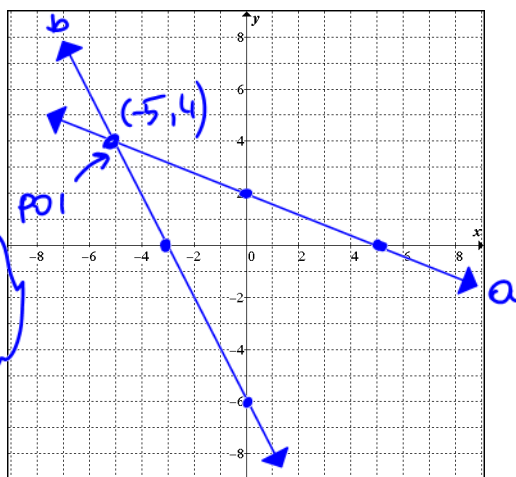
need to convert into $y = mx + b$ form

4. Complete the tables of values for:
   $y = -3x - 6$ and $y = -2x - 2$,

x	*y*
-2	0
-1	-3
0	-6

x	*y*
-2	2
0	-2
3	-8

   then graph the lines
   and state the point of intersection: $(-4, 6)$

POI
$(-4, 6)$

$-3x - 6$	$-2x - 2$
$-3(-4) - 6$	$-2(-4) - 2$
$= 12 - 6$	$= 8 - 2$
$= 6$	$= 6$

$LS = RS$

$2x + 5y = 10$
$5y = -2x + 10$
$\frac{5y}{5} = \frac{-2x}{5} + \frac{10}{5}$
$y = -\frac{2}{5}x + 2$

$y = \frac{-2x}{5} + 2$

$-\frac{2}{5}(5) + 2$
$= 4$

$-2x - 6$
$-2(5) - 6$
4

$2x + y + 6 = 0$
$y = -2x - 6$