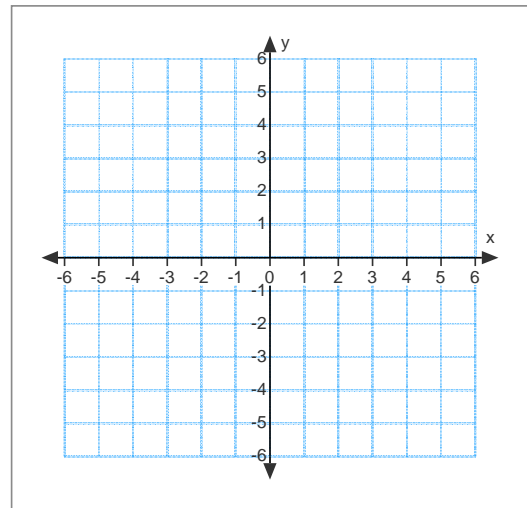1. Graph the lines $y = 3x + 2$ and
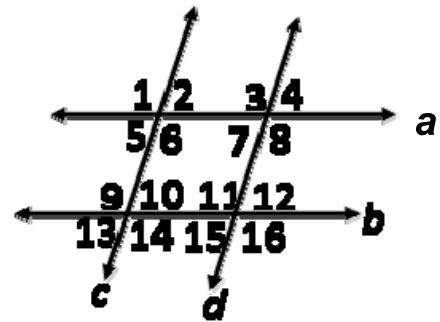 $y = 3x - 4$ on the same grid.

   What type of lines are these?
   How are their slopes related?

2. Graph the lines $y = -\dfrac{2}{3}x + 2$ and
   $y = \dfrac{3}{2}x - 4$ on the same grid.

   What type of lines are these?
   How are their slopes related?

3. **Given:** $a \parallel b, \ c \parallel d$

   Prove: $\angle 2 \text{ and } \angle 16$

Statements	Reasons
2. <2 and <3 are supplementary.	
3. $m\angle 2 + m\angle 3 = 180°$	
4. $m\angle 3 = m\angle 11$	
5. $m\angle 2 + m\angle 11 = 180°$	
6. $m\angle 11 = m\angle 16$	
7. $m\angle 2 + m\angle 16 = 180°$	
8. < 2 and <16 are supp.	

Given A(-3, 7) and B(4, -13), find the following

1. **slope of $\overline{AB}$**
2. **midpoint of $\overline{AB}$**
3. **AB** (exact answer...radical form)
4. **slope of line parallel to $\overline{AB}$**
5. **slope of line perpendicular to $\overline{AB}$**
6. **Find the equation of the line $\overleftrightarrow{AB}$ in slope-intercept form.**

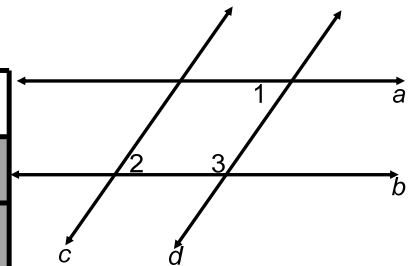Given *m//n*. Solve for *x*. Consider each problem independently.

1. $\angle 3 = 8x + 60$
   $\angle 6 = 4x + 92$

2. $\angle 1 = 7x - 8$
   $\angle 7 = 3x + 38$
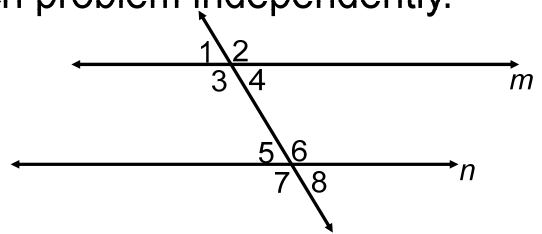
3. Given: *a//b*; $m\angle 1 = m\angle 2$
   Prove: *c//d*

Statements	Reasons
○	○
○	○
○	○
○	○
○	○
○	○

Do you UNDERSTAND? MATHEMATICAL PRACTICES

4. Explain how you know when to use the Alternate Interior Angles Theorem and when to use the Converse of the Alternate Interior Angles Theorem.

5. Compare and Contrast How are flow proofs and two-column proofs alike? How are they different?

6. **Error Analysis** A classmate says that $\overleftrightarrow{AB} \parallel \overleftrightarrow{DC}$ based on the diagram at the right. Explain your classmate's error.