Complete 7.1 Notes (see website for notes)  

7.1 HW pg 130 #s 1-6, 10, 3-5, 8-10,  

For the following: make accurate graphs and check solutions: 14, 15, 17, 22, 23.  

Word Problem(s): #35  

1. **VOCABULARY** Copy and complete: A(n) ___ of a system of linear equations in two variables is an ordered pair that satisfies each equation in the system.  

2. **WRITING** Explain how to use the graph-and-check method to solve a linear system of two equations in two variables.  

**CHECKING SOLUTIONS** Tell whether the ordered pair is a solution of the linear system.  

3. \(-3, 1\):  
   \[ x + y = -2 \]  
   \[ x + 5y = 2 \]  
   **S**  

4. \((5, 2)\):  
   \[ 2x - 3y = 4 \]  
   \[ 2x + 8y = 11 \]  
   **NS**  

5. \((-2, 1)\):  
   \[ 6x + 5y = -7 \]  
   \[ x - 2y = 0 \]  
   **NS**  

**SOLVING SYSTEMS GRAPHICALLY** Use the graph to solve the linear system.  

Check your solution.  

8. \(x - y = 4\)  
   \(4x + y = 1\)  
   [Graph of line 8]  

9. \(-x + y = -2\)  
   \(2x - y = 6\)  
   [Graph of line 9]  

10. \(x + y = 5\)  
    \(-2x + y = -4\)  
    [Graph of line 10]  

**GRAPH-AND-CHECK METHOD** Solve the linear system by graphing. Check your solution.  

13. \(x - y = 2\)  
    \(x + y = -8\)  
    [Graph of line 13]  

14. \(y = 2x + 2\)  
    \(y = 4x + 6\)  
    [Graph of line 14]  

15. \(2x + y = 9\)  
    \(2x + 3y = 15\)  
    [Graph of line 15]  

16. \(3x + y = 15\)  
    \(y = -15\)  
    [Graph of line 16]  

17. \(-5x + 3y = 3\)  
    \(4x + 3y = 30\)  
    [Graph of line 17]  

18. \(y = 2x + 2\)  
    \(y = 4x + 6\)  
    [Graph of line 18]  

Must check:  

**C**: \(-2, 2\) \(y = 2x + 2\)  

**C**: \((-2, 2)\) \(y = 4x + 6\)  

**C**: \((-2, 2)\) \(y = 2x + 2\)  

January 04, 2013
HW:

35. **MULTIPLE REPRESENTATIONS** It costs $15 for a yearly membership to a movie club at a movie theater. A movie ticket costs $5 for club members and $8 for nonmembers.

a. **Writing a System of Equations** Write a system of equations that you can use to find the number of movies viewed after which the total cost $y$ for a club member, including the membership fee, is the same as the cost for a nonmember.

b. **Making a Table** Make a table of values that shows the total cost for a club member and a nonmember after paying to see 1, 2, 3, 4, 5, and 6 movies.

c. **Drawing a Graph** Use the table to graph the system of equations. Under what circumstances does it make sense to become a movie club member? *Explain* your answer by using the graph.

**Key Info:**

**Define variables:**

**Define equations:**

**Solve:**
- In this example: Create a table and graph.

**ANSWER:** in a complete sentence:
**HW:**

35. **MULTIPLE REPRESENTATIONS** It costs $15 for a yearly membership to a movie club at a movie theater. A movie ticket costs $5 for club members and $8 for nonmembers.

a. **Writing a System of Equations** Write a system of equations that you can use to find the number \( x \) of movies viewed after which the total cost \( y \) for a club member, including the membership fee, is the same as the cost for a nonmember.

b. **Making a Table** Make a table of values that shows the total cost for a club member and a nonmember after paying to see 1, 2, 3, 4, 5, and 6 movies.

c. **Drawing a Graph** Use the table to graph the system of equations.

Under what circumstances does it make sense to become a movie club member? Explain your answer by using the graph.

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**Key Info:**
- $15/yr membership
- $5/tix member
- $8/tix non member

**Define variables:**
- \( x = \# \text{ MOVIES} \)
- \( y = \text{ TOTAL COST} \)$

**Define equations:**
- \( m: \quad Y = 5x + 15 \)
- \( nn: \quad Y = 8x \)

**ANSWER:** in a complete sentence:

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**Graph:**

- **Axes:**
  - X-axis: \( \# \text{ MOVIES} \)
  - Y-axis: \( \text{COSTS} \)

- **Table:**
  - MOVIES | MEM $ | Non-Mem $ |
  - 1      | 20   | 28      |
  - 2      | 25   | 32      |
  - 3      | 30   | 37      |
  - 4      | 35   | 42      |
  - 5      | 40   | 48      |
  - 6      | 45   | 54      |

- **Graph:**
  - **MEMBERS:** $20, 25, 30, 35, 40, 45
  - **NON-MEMBERS:** $28, 32, 37, 42, 48, 54