Worksheet #1 – Solving & Graphing Equations and Inequalities

College Placement Exam Prep

Correct Number of Answers on Placement Exam Pre-Test for Questions 7 – 20: \_\_\_\_\_\_\_\_

Directions: Complete the appropriate section of the worksheet. Show all work!

* If you answered 0 – 5 questions correct, complete the problems in Section A of the worksheet.
* If you answered 6 – 10 questions correct, complete the problems in Section B of the worksheet.
* If you answered 11 – 14 questions correct, complete the problems in Section C of the worksheet.

**Section A**

*Simplify each expression completely.*

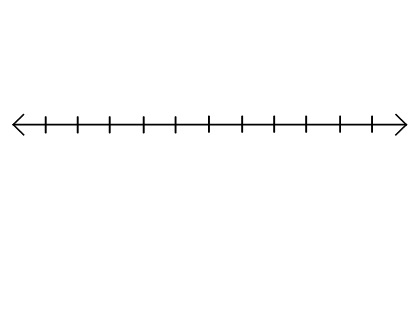
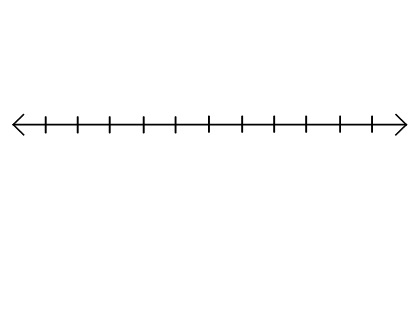
1. 2.

*Solve each equation.*

3. 4. 5.

*Solve each inequality and graph the solution on a number line.*

6. 7.



*Identify the slope, x-intercept, and y-intercept for each line.*

8. 9.

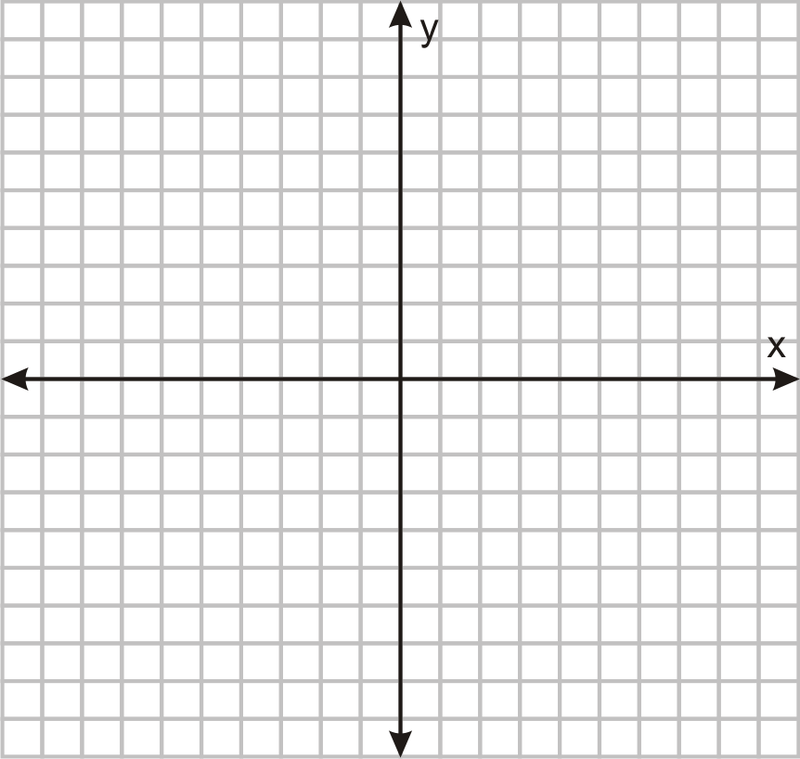
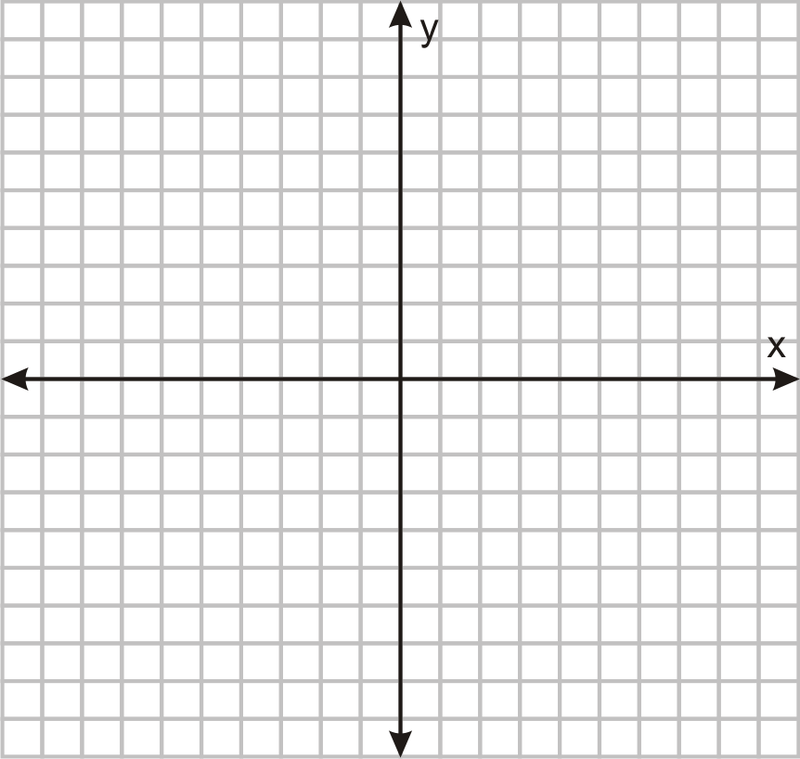
Slope = \_\_\_\_\_\_ x-int = \_\_\_\_\_\_ y – int = \_\_\_\_\_\_ Slope = \_\_\_\_\_\_ x-int = \_\_\_\_\_\_ y – int = \_\_\_\_\_\_

*Solve the system of equations by graphing, substitution, or elimination.*

10. 11. 12.

*Solve the system of inequalities by graphing.*

13. 14.



**Section B**

*Simplify each expression completely.*

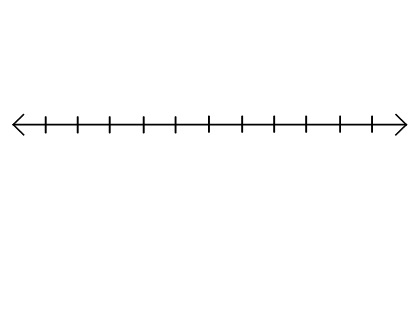
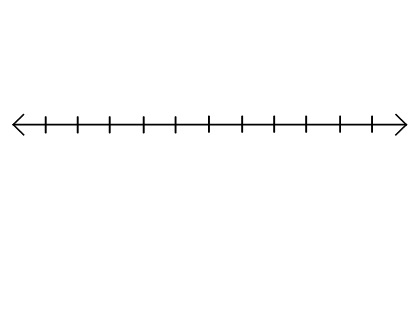
1. 2.

*Solve each equation.*

3. 4. 5.

*Solve and graph on a number line.*

6. 7.



*Identify the slope, x-intercept, and y-intercept for each line.*

8. 9.

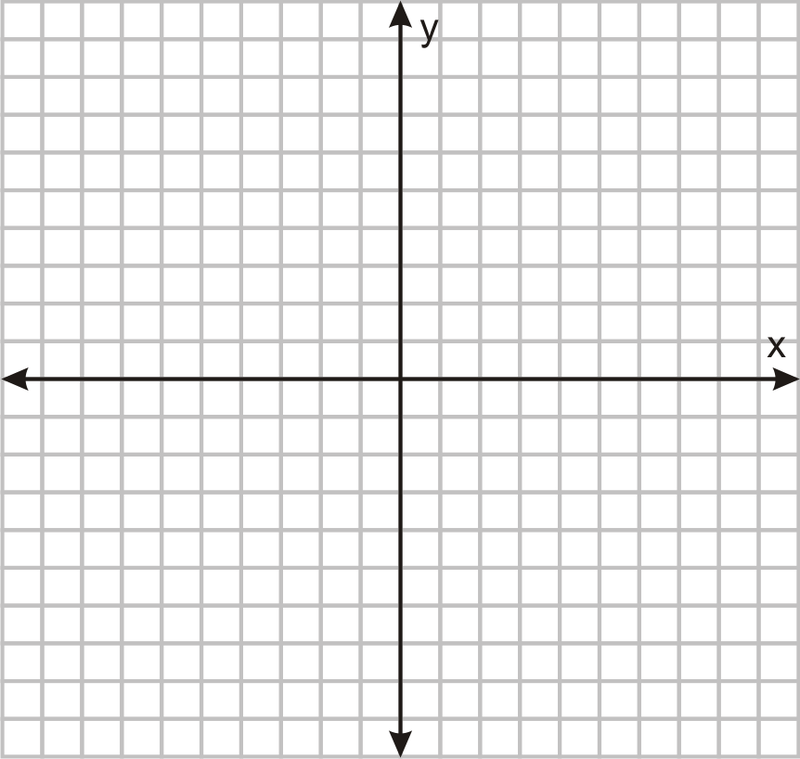
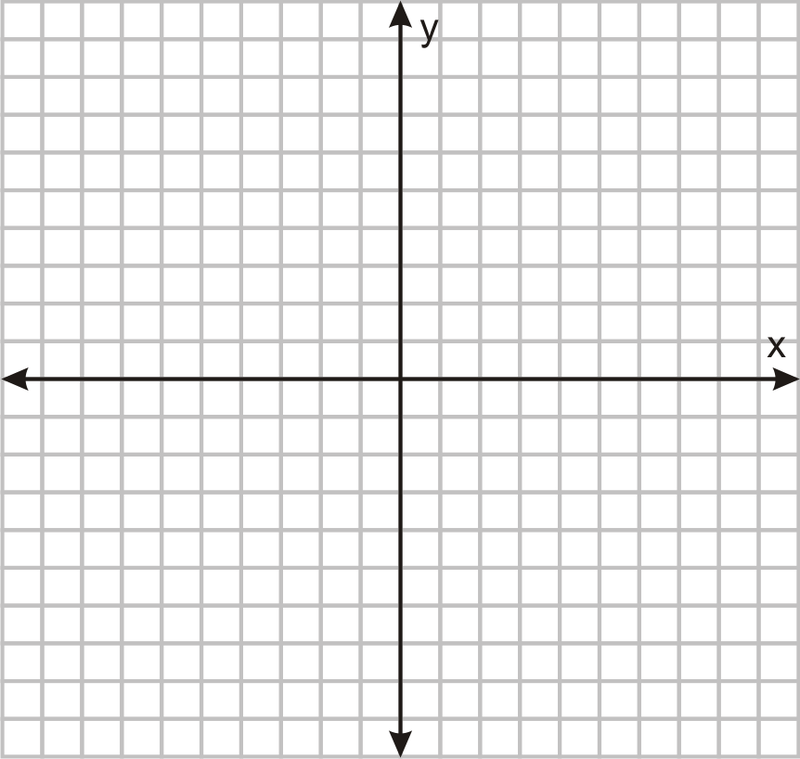
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*Solve the system of equations by graphing, substitution, or elimination.*

10. 11. 12.

*Solve the system of inequalities by graphing.*

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**Section C**

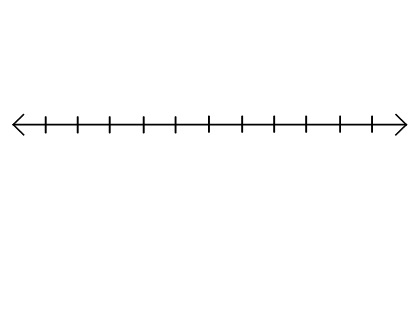
*Write an expression for the scenario. Simplify completely.*

1. The width of a rectangle is and the length of a rectangle is . Write a simplified expression representing the area of the rectangle.

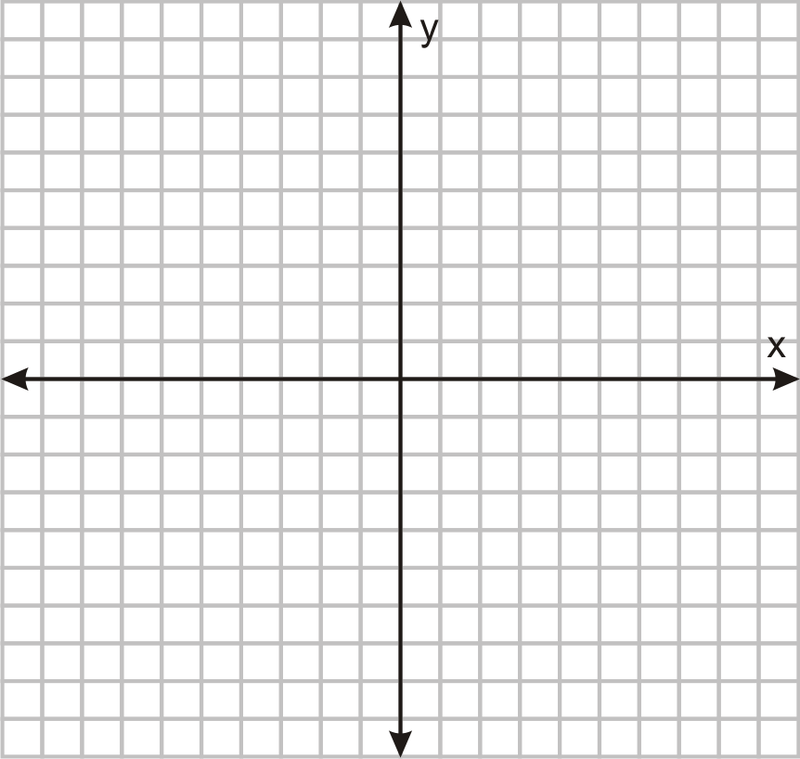
2. What value(s) of will make the equation a contradiction?

*Solve and graph on a number line.*

3.



4. Draw a graph of a line with x-intercept (5, 0) and y-intercept (0, 8). Write the equation of the line in slope-intercept form.

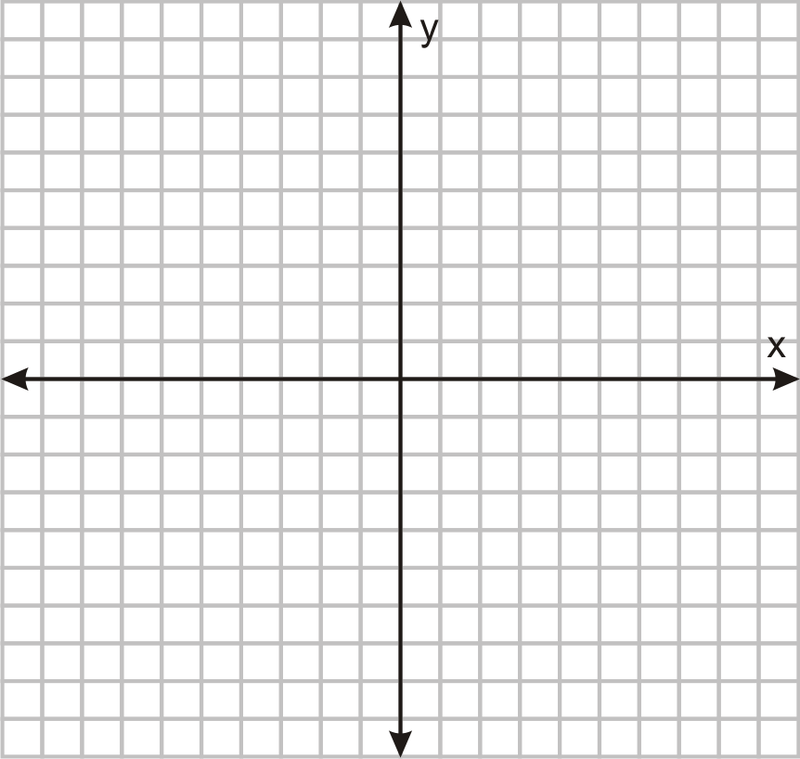


Equation: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*Solve the system of equations by graphing, substitution, or elimination.*

5. 6. 7.

*Solve the system of inequalities by graphing.*

8.

9. The Drama Club is selling tickets to a Senior Showcase. Prices are $8 for adults and $4 for student tickets. The club needs to raise $1000 to pay for stage sets and lighting. The auditorium has a seating capacity of 240 seats. Write a system of inequalities that can be used to determine how many tickets have to be sold for the club to meet its goal.