

*Study Guide due Mon, 12/12  
Test on Tues, 12/13*

Study Guide Chapter 7

Math 7

1. There are 76 students in the Breezewood Middle School chorus. The number of girls in the chorus is 13 more than twice the number of boys.

a. Draw a picture that models the situation. Label the unknown parts with variables and the known parts with their values.

Boys:

Girls:

b. Use your picture to determine the number of boys and the number of girls that belong to the chorus. Show your calculations.

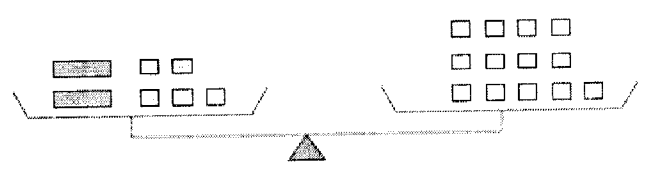
c. Write an expression for the number of boys and an expression for the number of girls using the variable  $b$  to represent the number of boys.

Boys:

Girls:

d. Write an equation to represent this situation.

2. Use the pan balance to answer each question.



a. What will balance 1 rectangle? Explain your strategy.

b. Rewrite the problem using variables and numbers. Let  $\text{rectangle} = x$  and  $\text{square} = 1$  unit. Then, determine what balances  $x$ . (Solve for  $x$ )

3. Write a sentence to describe how to apply inverse operations to solve the equation. Then solve and verify your solution.

$$-8x - 5 = -37$$

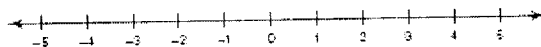
4. Solve and verify

$$8(3x - 4) = 16$$

5. Solve and verify

$$4(2x - 2) - 18 = -26$$

6. Solve and verify. Then, graph the solution on a number line.



$$-3x + 7 \geq -5$$

Write an equation to represent each situation. Define your variables, solve the equation, and verify your solution.

7. Ms. Moderelli charges her piano students \$40 per lesson plus a semester recital fee of \$55. How many lessons did Jerry take if he paid a total of \$695 for lessons this semester?