Algebra Story Problems

Answer the following on your POD paper. Show your work like we do in class!

1. Artie has a number. Eight more than twice his number is 30. What is Artie's number?
- **a.** Let x = Artie's number. Write an equation for the situation.
- **b.** Solve the equation and answer the question.

2. Quinn has a different number. The sum of three times the number and 114 equals nine times the number. What is Quinn's number?
- **a.** Let x = Quinn's number. Write an equation for the situation.
- **b.** Solve the equation and answer the question.

3. The perimeter of a rectangle is 322 meters. The length is 25 meters greater than the width. What are the dimensions of the rectangle?
- **a.** Let x = the width. Write an equation for the perimeter of the rectangle.
- **b.** Solve the equation and answer the question.

4. Mercedes has 17 apples, which is 5 more than twice as many apples as Kurt. How many apples does Kurt have?
- **a.** Let x = the number of Kurt's apples. Write an equation for the situation.
- **b.** Solve the equation and answer the question.

5. Finn is counting his trophies. He has 7 baseball trophies. He has 3 times as many football trophies as basketball trophies. He has a total of 39 trophies. How many of each trophy does Finn have?
- **a.** Let x = the number of basketball trophies. Write an equation for the total number of trophies.
- **b.** Solve the equation and answer the question.

6. McKinley High school is selling shirts and caps. The caps cost $18 each. With the money you have, you can either buy 17 shirts or you can buy 2 shirts and 10 caps.
- **a.** Let x = the cost of each shirt. Write an equation for the situation, then solve.
- **b.** How much is each shirt?
- **c.** How much money do you have to spend?

7. Find four consecutive integers such that the sum of them is 154. What are the four integers?
- **a.** Let x = the first number. Write an equation for the situation, then solve.
- **b.** Solve the equation and answer the question.

8. Rachel has four consecutive odd integers. If you double the first integer and add the second, you get 37 more than the sum of the third and fourth. What are the four integers?
- **a.** Let x = the first number. Write an equation for the situation, then solve.
- **b.** Solve the equation and answer the question.

9. Santana has a number. The sum of 26 and three times her number is 167. What is Santana's number?
- **a.** Let x = Santana's number. Write an equation for the situation.
- **b.** Solve the equation and answer the question.

10. Solve the following equations and show each step.
If the answer is not a whole number, give it as a reduced fraction.

- **a.** $-6x + 54 = 36$
- **b.** $8x - 11 = 17$
- **c.** $9x + 32 = -7x - 64$
- **d.** $14x - 7 = 8x + 15$
- **e.** $12x - 7x + 4 = 2x + 38 - 13$
- **f.** $7x - 4x - 17 - 4 = 9x + 12$