Algebra 1   Mathematician: _____

Unit 2 Solving Linear Equations   Period:_____

2.4 Write and solve linear equations for real
      world applications

LEVEL: EMERGING

Directions: Write an equation and solve.

1) The sum of a number and 12 is 20.	2) Twice the difference of a number and 4 is 12.	3) 5 less than the product of 3 and a number a is 40.
4) 10 is the quotient of a number and 4.	5) 16 is the product of a number and 9 subtracted by 2.	6) 4 times the sum of 5 and a number j is 36.

LEVEL: PROFICIENT

Directions: Write an equation for the given problem and solve.

7) You purchase 5 tickets to a football game from an internet ticket agency. In addition to the cost per ticket, there is a convenience charge of $2.50. The total cost of your order is $320.25. What is the price per ticket?	8) A rectangular city park has an area of 211,200 square feet. If the length of the park is 660 feet, what is the width of the park?
9) Brandon buys a basket of bananas on sale for $22 before tax. The sales tax is 12%. What is the price of the bananas after tax?	10) In the first 4 games of the season, a soccer team scored a total of 10 goals. If this trend continues, how many goals will the team score in the 8 remaining games of the season?

Directions:

11) A new car is valued at $14,500. In one year, the car's value will depreciate (decrease) by 15%. Find the value of the car after 1 year.

12) Katy's best friend is turning 16 this weekend. Katy is going to make her a cake but she forgot to buy eggs. When she arrived at the store, one dozen eggs was $2.39 while 18 eggs was $3.25. Which is the better price per egg, the dozen of eggs or the 18 pack?

13) The perimeter of a rectangle is 64 feet long. If the width is 3 feet longer than the length, what is the width of the rectangle? What is the length?

14) At a Iggy Azalea concert, Sam purchased some snacks that cost $20.25, as well as five t-shirts. In total, Sam spent $80.75.

a) Write an equation for what you would spend at the concert.

b) Solve the above equation.

15) The pizza store is having a 40% off sale on all of its pizzas. If the pizza you want to order regularly costs $10, how much would you save with the discount? How much would the pizza cost with the discount?

16) A survey asks high school freshman whether they would be willing to pay $5 for a yearbook. Out of 225 students surveyed, 198 said "yes." What percentage of freshman said "yes"?

Answers: 11) $12,325   12) 18 pack   13) length = 14.5 feet,   width = 17.5 feet 14) *a*) $5x + 20.25 = 80.75$ *b*) $12.10   15) discount $4,   cost of pizza = $6 16) 88%