

2A Equations & Problem Solving.doc

Prealgebra

Name: _____

Due Date: _____

WHY: There seem to be lots of rules you need to know in order to solve equations. Actually, there are only a few rules, but they can be used in a lot of ways. Today, you will learn the most important rule for solving an equation, and then use this to solve word problems.

LEARNING OBJECTIVES:

- 1) Translate word sentences into equations, with defined variables.
- 2) Solve equations algebraically by isolating the unknown.

WARM UP:

- 1) Explain the difference between an expression and an equation.

- 2) Explain the difference between simplifying and solving.

- 3) Write an equation for “Four times an unknown is thrice the sum of 3 and the unknown.” Define your variable (for example, write “ x = the unknown”).

Solve the equation.

- 4) Write an equation for “The cost of attending LMC is \$26 for each unit, plus \$50 for a parking pass, plus \$1 for record-handling. Define your variable.

How many units are being taken by a student who paid \$467?

ACTIVITY:

- 1) A hostage in a Chinese fortune cookie factory writes a help note on one of the fortunes. The fortune is baked into a cookie. The cookie is put into a bag, and the bag is put into a box with other bags. Then the box is loaded onto a truck. What steps are necessary before a diner in a Chinese restaurant reads the help note?
- 2) I have a secret number. If I add 2 to my number, multiply the sum by 5, and subtract 7, then the difference is 9. What is my secret number?
- 3) What rule did you use to solve both of the two previous problems?

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- c) Jared has a total score of 78% before the final exam in Prealgebra. He wants to get a B in the class. He looks at the first day handout and reads that the final exam is worth 20% of his class grade, while everything else is worth 80% of his class grade. This means that his class grade is 0.20 times his final exam score, plus 0.80 times his total score before the final exam. What does Jared need to get on the final exam in order to get a B in the class?
- d) During the 2000 Men's NCAA Division I basketball championship game, the Florida Gators scored 13 fewer points than the Michigan State Spartans. Together, both teams scored a total of 165 points. How many points did each team score?
- e) Your cell phone plan costs \$39.99 per month for 400 anytime minutes. After you use up your allowance, you pay 45¢ per minute. You have budgeted \$60 per month for your cell phone bill. How many minutes can you use your cell phone each month without going over your budget?