

Algebra 1

Solving Literal Equations #1

Name _____

521

Per/Sec. _____

With colored pen, circle the variable you are solving for. Combine any like terms or distribute. Use math operations, such as addition, etc. to isolate the circled variable.

Solve for the indicated variable.

1. $C = K + 273$; for K

2. $x - \frac{c}{2} = -\frac{3c}{2}$; for x

3. $T = 1 - (m + n)$; for n

4. $d = rt$; for t

5. $L = \frac{A}{W}$; for W

6. $I = Prt$; for r

7. $V = \ell wh$; for w

8. $2ax + 1 = ax + 5$; for x

9. $R = \frac{k\ell}{d^2}$; for ℓ

10. $\frac{1}{3}x + 3y = -6$; for y

WS (Intro to Word Puzzles)

Directions: Use the class handout to see the steps I want you to use for each word problem. You must show the steps for each problem below, but it is OK to go right to the equation if you can figure it out without looking for a pattern.

Step 1: **What** are you asked to find?

Step 2: **Identify** the variable you will use in your solution.

Step 3: **Find a pattern** and see if you can identify the "fixed cost" (or "starting point") and the "rate of change". (OK to skip this one step!)

Step 4: Use your conclusion above to **write an equation**. Solve it!

Step 5: Write your solution in a **complete sentence**.

1. A ticket agency sells tickets to a professional basketball game. The agency charges a processing fee of \$5.90 plus \$35.80 per ticket. If the total charge for an order is \$220.70, how many tickets were purchased?
2. The senior class of 1925 (yes, they are still alive) is hosting a reunion. Every senior pays a flat fee of \$75 and then an additional charge of \$50 per family member attending. Old man Webb paid a total of \$375 for his family to attend the reunion. How many members of his family attended?
3. You are saving money for a new bike that costs \$265. You have $\frac{2}{5}$ of the money saved up from gifts at your recent birthday party. If you make \$8 an hour, how many hours will you have to work to buy the bike? (Round to the nearest tenth).
4. The temperature within the earth's crust increases about 30° Celsius for each kilometer of depth beneath the surface. If the temperature at the earth's surface is 24° C, then at what depth would you expect the temperature to be 114° Celsius?
5. You have a 90-pound farm animal (a chicken perhaps) you are raising for your FFA project. You expect the animal to gain 65 pounds per month. In how many months will the animal weigh 1000 pounds?
6. A bill for your car repair was \$390. The cost for the parts was \$215. The cost for labor was \$35 per hour. How many hours did the repair work take?
7. Air temperature drops about 3° F for each 1000 ft increase in altitude. If the air temperature at sea level is 77° F, at what altitude would you expect the temperature to be 53° F? (Hint: let x = the altitude in thousands of feet.)
8. Central High's enrollment decreases at an average rate of 55 students per year, while Washington High's enrollment increases at an average rate of 70 students per year. Central High has 2176 students and Washington High has 1866 students. If enrollments continue to change at the same rate, when will the two schools have the same number of students?