



## Word Problems Leading to Equations

---

Grade 7 Place Value Worksheet

Date: \_\_\_\_\_

Name: \_\_\_\_\_

### LET'S MAKE WORD PROBLEMS LEADING TO EQUATIONS EASY

Solve the following problems

1. Your four-month bill for the gym comes to \$223 that includes the cost per month of \$50 plus the one-time membership fee. How much is the membership fee?
2. A T-shirt design company charges your team an initial fee of \$25 to create the team's design. Each t-shirt printed with your design costs an additional \$8. The equation for this situation is  $y = 8x + 25$ . Interpret the y-intercept in context.
3. Your new job is at the Adidas Store, where T Shirts are printed to order. For each order, Adidas Store charges \$8 per shirt plus a one time set up fee of \$15, represented by the equation  $y=8x+15$ . How much would 50 shirts cost?
4. An electrician charges \$50 to make a house call. He also charges \$25 per hour for labor. How much would it cost for 2.5 hours of labor?
5. You are visiting Baldwin, MD and a taxi company charges you a flat fee of \$5.00 for using the taxi and 0.75 per mile. Write the equations matches the situation.
6. The Women's Club charges a one-time registration fee of \$50 and \$20 each month. The total fee after x months is 400. Write an equation that models this situation.
7. Donny Car Rental charges a \$15 deposit fee plus \$2 for each hour of use to rent a car. Write an equation for C, the total cost, to rent the car for h hours.

8. Which of the following situations could be described by the equation  $y = -25x + 120$
- A. There are 120 gallons of water in a tank. It releases water at a rate of 25 gallons per minute
  - B. There are 120 people in the football stadium, and 25 more are entering each hour.
9. A Reading club opens with 90 members. Each month the membership increases by 10 members. Write an equation that represents the relationship between the number of months the club has been opened,  $x$ , and the total fitness club membership,  $y$ .
10. GFD company advertises that it charges a flat fee of \$40 plus \$8 per mile to tow a vehicle. Write an equation that represents the total cost ( $C$ ) of a service for  $m$  miles of towing.



## Word Problems Leading to Equations

### Answers

1. Write it as  $4x + y = 223$ .

where  $x = 50$ ,  $y$  represents the membership fee

$$4(50) + y = 223$$

$$200 + y = 223$$

$$y = 23$$

2. In this equation,  $y$  represents the total cost,  $x$  represents the number of T-shirts printed, and the  $y$ -intercept (the term without the  $x$ ) is 25. This indicates the initial fee of \$25 that the T-shirt design company charges regardless of the number of T-shirts printed.

**Interpretation:**  $y$ -intercept is the initial fee of \$25.

3.  $y = 8x + 15$  (where  $x = 50$ )

$$y = 8(50) + 15$$

$$y = 400 + 15$$

$$y = 415$$

Therefore, the cost of 50 shirts is \$415

4.  $y = 25x + 50$  (where  $x = 2.5$ )

$$y = 25(2.5) + 50$$

$$y = 62.5 + 50$$

$$y = 112.5$$

Therefore, the cost of labor for 2.5 hours is \$112.5

5.  $y = 0.75x + 5$

6.  $20x + 50 = 400$

7.  $C = 2h + 15$

8. Option A is correct

9.  $y = 10x + 90$

10.  $C = 8m + 40$