

## CED-Word Problems

Write an equation or inequality that represents each situation.

### Word Problem

1. The cost for six weeks membership at a gym is \$59.70. Let  $w$  represent the cost for one week membership at the gym. What is the cost for one week?

$$6w = 59.70$$

### Equation/Inequality

$$\frac{6w}{6} = \frac{59.70}{6}$$

$$w = \boxed{9.95 \text{ \$/week}}$$

2. Daniel had \$25 to spend on six pens. After buying them, he had \$1. How much did each pen cost? Let  $p$  represent the cost of one pen.

$$25 \geq 6p + 1$$

$$24 \geq 6p$$

$$4 \geq p$$

$$\boxed{4 \text{ \$/pen}}$$

3. Billy must be at least 73 inches tall to ride on the rollercoaster. Billy is currently only 39 inches tall, but is growing an average of 6 inches per year. How many years until Billy can ride the rollercoaster? Let  $y$  represent the years that Billy has to wait.

$$73 \leq 39 + 6y$$

$$34 \leq 6y$$

$$5\frac{2}{3} \leq y$$

$$\boxed{6 \text{ years}}$$

4. Sharon purchases four value meals for \$14.80. Included in that total was \$0.84 in sales tax. How much was one value meal, if Sharon decided to buy the same meal each time? Let  $v$  represent a value meal.

$$14.80 = .84 + 4v$$

$$13.96 = 4v$$

$$v = \boxed{3.49 \text{ \$/meal}}$$

5. Cherry currently weighs 160lbs, but her owners intend to put her on a diet that promises to make her lose 4lbs each month. How many months until she is under her target weight of 125lbs? Let  $m$  represent the number of months.

$$160 - 4m < 125$$

$$-4m < -35$$

$$m > 8\frac{3}{4}$$

$$\boxed{9 \text{ months}}$$

6. Kayla won 54 super bouncy balls playing hoops at her school's game night. Later, she gave two to each of her friends. She now only has 6 left. How many friends does she have? Let  $f$  represent the number of friends.

$$54 - 2x = 6$$

$$-2x = -48$$

$$x = 24$$

24 friends

7. Half of your baseball collection got wet and was ruined. You bought 19 cards to replace some that were lost. How many did you begin with if you now have 45? Let  $c$  represent the number of cards.

$$\frac{x}{2} + 19 = 45$$

$$\frac{x}{2} = 26$$

$x = 52$

8. 285 students went on a field trip. Five buses were filled and 15 students traveled by car. How many students were in each bus? Let  $s$  represent the number of students.

$$285 = 5x + 15$$

$$270 = 5x$$

$$x = 54$$

54 students

9. Alex begins the school year with \$125 in his lunch account. Each week he uses \$15 to purchase lunches. After how many weeks will he have to replenish his lunch account? Let  $w$  represent the number of weeks.

$$125 = 15x$$

$$x = 8\frac{1}{3}$$

after 8 weeks

10. Jane spent \$42 on shoes. This was \$14 less than twice what she spent on her sweater. How much did she spend on her sweater? Let  $c$  represent the cost of the sweater.

$$42 = 2x - 14$$

$$56 = 2x$$

$$x = 28$$

The sweater cost 28 bucks

11. A crate filled with 20 cartons of Gatorade weighs 11.45Kg. The crate, when empty, weighs 5.6Kg. How many Kg does each carton of Gatorade weigh? Let  $c$  represent the weight of a carton.

$$5.6 + 20c = 11.45$$

$$c = .2925 \text{ kg}$$

12. A jewelry case containing 15 different rings is said to be worth at least \$50,000. The case itself is worth \$8,000. Assuming the rings all cost the same amount, find the cost of each ring. Let  $r$  represent the cost of each ring.

$$50000 < 8000 + 15r$$

$$r > 2800$$

13. Jordan purchased eight basketballs for the same price, as well as a backboard and rim that cost him \$115. If his total bill with the basketballs was \$295, how much did each basketball cost? Let  $b$  represent the cost of one basketball.

$$8b + 115 = 295$$

$$8b = 180$$

$$b = 22.5$$

$$\$22.50$$

14. A backyard pool can hold no more than 4,000 gallons of water. There is already 340 gallons in the pool. The water hose disperses 120 gallons per hour. How many hours can you let the hose run before the pool overflows? Let  $h$  represent the number of hours.

$$4000 > 340 + 120h$$

$$3660 > 120h$$

$$30.5 > h$$

$$30.5 \text{ hours}$$

15. Six increased by a number is equal to four times the difference of that number and three. Find the number.

$$6 + x = 4(x - 3)$$

$$6 + x = 4x - 12$$

$$18 = 3x$$

$$x = 6$$

