

6.3

Monday, October 26, 2020 8:54 PM

me: _____ Date: _____

Math 9 HW Section 6.3 Solving Word Problems Using Algebra

1. Given what "x" represents in each question, indicate what the statement is equal to in terms of "x"

i) Let's Bob's age be "x". If Sam is half of Bob's age, how old is Sam?
 $\frac{x}{2}$

ii) The number of Art's students graduating from UBC is three times the number of Engineering students. If "x" is the number of Engineering students graduating, how many Art's students are graduating?
 $3x$

iii) Tom can make "x" number of pots today. Each day he can make 2 more than the previous day. How many can he make in 5 days from now?
 $5x + 20$

iv) Carrie drives 5km/hr less than double of Jason's speed. If Jason's speed is "x", what is Carrie's speed?
 $2x - 5$

v) Sharon has "x" number of dimes. What is the worth of all her dimes?
 $\frac{x}{10}$

vi) Harry has "y" number of quarters. What is the worth of all his quarters?
 $\frac{x}{4}$

2. Let Bill's age be "x". What is Bill's age five years ago? If he is now double his age five years ago, write an equation to find his age now. Solve for his age.
 $x = 2(x - 5)$
 $x = 5$

3. The sum of five consecutive numbers is equal to 95. If the smallest number is "x", write do the other four numbers in terms of "x". Write an equation and solve for all five numbers
 $x + (x+1) + (x+2) + (x+3) + (x+4) = 95$

4. When 13 is subtracted from three-eighths of a number, the result is 11. Find the numbers.
 $\frac{3x}{8} - 13 = 11$
 $x = 64$

5. Bruce is 10 years older than Cindy. The sum of their ages is 88. How old is each person?

$$x + (x+10) = 88$$

$$x = 39$$

$$\text{Cindy} = 39$$

$$\text{Bruce} = 49$$

6. Mike ran twice as far as Brad. They ran a total of 90km. Write an equation to show how far each person ran. How far did each person run?

$$x + 2x = 90$$

$$x = 30$$

$$\text{Mike} = 60$$

$$\text{Brad} = 30$$

7. Tom has equal number of nickels, dimes, and quarters. Their total value is \$18.00. Make a chart showing how much money he has of each type of coin. Write an equation showing how much all his coin is worth. How many of each kind of coin does he have?

$$5x + 10x + 25x = 1800$$

$$x = 45$$

8. James has 91 coins which are nickels, dimes, and quarters. There are twice as many quarters as dimes, and half as many nickels as dimes. How much money does James have?

$$2x + x + \frac{1}{2}x = 91$$

$$x = 26$$

$$52 \times 0.25 + 26 \times 0.1 + 13 \times 0.05 = 16.25$$

9. Bob is twice as old as his brother Dave. In 7 years from now, Bob will be only one and one-half times as old as Dave. How old are they each now?

$$2(x+7) = \frac{3}{2}(x+7)$$

$$\text{Dave} = 7$$

$$\text{Bob} = 14$$

10. Robbie is three younger than Richard. Eight years ago, Robbie was one half of Richard's age. How old is each person now?

$$2(x-3-8) = x-8$$

$$x = 14$$

$$\text{Richard} = 14$$

$$\text{Robbie} = 11$$

11. A stick is 60cm long and is cut into three pieces. The middle piece is 2cm longer than the shortest and 2cm shorter than the longest. How long is each piece?

$$(x-2) + x + (x+2) = 60$$

$$3x = 60$$

$$x = 20$$

$$18, 20, 22$$