9th Grade Assignment – Week #19

Group Assignment: *for either Tuesday or Thursday*

- **Problem Set #6** from the *Word Problem* unit: problems #1-3
- **Problem Set #7** from the *Word Problem* unit: problems #1-2
- *Puzzle!* The below puzzle contains four equations, written both horizontally and vertically. Determine what numbers go into the four boxes in order to make all four equations work. (<u>Hint</u>: The top two boxes are filled with whole numbers. Algebra is not needed.)

$$\boxed{} \times \boxed{} = 18$$
$$\times \qquad \times$$
$$\boxed{} \div \boxed{} = 3$$
$$\| \qquad \|$$
$$42 \qquad 28$$

Individual Work

- As much as you can, complete the problems on **Problem Sets #5 and #6**. (See last week's assignment for problem set #5.)

— Word Problems —

Problem Set #6

Group Work

1) Jeff has 20 coins in his pocket worth a total of $3.95. If he has only quarters and dimes, then how many of each type of coin does he have?

2) Bob has a handful of nickels and dimes worth $2.45. How many dimes are there if there are four more nickels than dimes?

3) In Kate's math class, the final exam is worth 30%. Her test average going into the final is 87.5. What does she need to score on the final exam (rounded to the nearest whole number) in order to end up with at least a 90 test average?

Homework

Section A

Find the common solution.

4) $8x + 3y = 12$
   $8x + 12y = -39$

5) $5x - 7y = 3$
   $x + 7y = 15$

6) $6x - 2y = 9$
   $2x + y = -2$

7) One number is three more than another. Four times the smaller number is seven more than three times the greater. Find the two numbers.

8) The difference of two numbers is 7, and the smaller number is 65% of the larger. Find the two numbers.

9) Twice Bill's weight is 12 kilograms less than Frank's weight, but three times Bill's weight is three kilogram's more than Frank's weight. Find Frank's weight.

10) Jim's math course's final grade is calculated with these weights: final exam 25%, quiz average 35%, homework 30%, and class participation 10%. If Jim receives scores of 77, 93, 65, and 80 on those four categories, respectively, then what is his final grade (rounded to the nearest whole number)?

11) Bill is two-thirds of Mark's age. If Mark is 5 years older than Bill, then how old is Bill?

Section B

12) Find common solution:
   $2x - y = 6$
   $x^2 + 4x - 3y = 26$

13) Jeff is half as old as Pete. Next year the sum of their ages will be 35. How old is Jeff?

14) Sue is 20 years younger than Gail. In 9 years, Sue will be $^3/_5$ as old as Gail. How old is Sue now?

Problem Set #7

Group Work

1) Tickets at a concert cost $8 for section A and $4.25 for section B. 4500 tickets were sold for a total of $30,000. How many tickets of each type of were sold?

2) Joe earns $10.50/hr at a restaurant and $8/hr at a movie theater. Last week, between the two jobs, he worked 17 hours and earned $159.75. How many hours did he work at each job?

Homework

Section A

Find the common solution.

3) $x + 8y = 17$
   $5x + 8y = 3$

4) $4x + 2y = 10$
   $2x - 3y = 1$

5) $3x + 5y = 3$
   $2x - 3y = 5$

6) $y - 3x = 4$
   $y - 3x = 7$

7) Hannah is 8 and her father is 30. How long will it be until Hannah is half her father's age?

8) It took Tim 17 minutes to drive 11 miles to get to the park. He then walked 2½ miles in 51 minutes, and lastly, ran 1½ miles in 12 minutes. What was his average speed for the whole trip?

9) Kate has a pocketful of dimes and quarters. How many quarters are there if there are a total of 29 coins and they are worth $4.70?

Section B

10) On Saturday, Ben jogged for 2½ hours. On Sunday, he jogged for two hours, but went 2 km further, and jogged at a rate that was 3 km/h faster than he did on Saturday. How far did he jog on Saturday?

11) Jeff biked for two hours at 4 mph and then biked for two hours at 18 mph. What was his average speed?

12) Mary biked up an 18-mile hill at 4 mph and came back down (the same route) at 18 mph. What was her average speed?

13) Max biked up a 3-mile hill at 4 mph and came back down at 18 mph. What was his average speed?

14) Margaret biked up a hill at 4 mph and came back down at 18 mph. What was her average speed?

15) There are two numbers. One number is 60 greater than the other. The greater number is one-quarter of the lesser. Find the numbers.