Name: Date:
Math 8 Unit 3: Word Problems Packet

Solve each problem by following the L.E.S.S method. Do all of your work on a separate sheet of paper. Only *algebraic* solutions will be accepted.

1) Four times a number decreased by eight is −24. Find the number.

2) Seven less than three times a number is equal to 17. Find the number.

3) The product of eight and a number, subtracted from sixty, is the same as twice the number. Find the number.

4) Five times the sum of a number and two is fifty. Find the number.

5) The product of a number and six increased by one is equal to −29. Find the number.

6) Twelve less than twice a number is the same as three times the number subtracted from three. Find the number.

7) Eight decreased by a number is equal to four times the sum of the number and three. Find the number.

8) Mark can rent an apartment in the city and walk to work for $818 per month. He can rent an apartment in the suburbs for $650 per month and take the train to work for $8 per day. How many days will he have to work per month to make either choice equal financially?

9) A company needs a faster computer to enhance its e-business capabilities. The computer can be purchased for $2500 or rented for $750 plus $70 per month. What is the maximum number of months the computer could be kept so that it is cheaper to rent than to buy?

10) Ashley's telephone service costs $24 per month plus $0.20 for each local call. Long distance calls are extra. Last month, her bill was $45.93, and it included $16.33 in long distance charges. How many local calls did she make?

11) *Ace* taxi service charges $2.25 for the first mile plus $.15 for each additional mile. *Best* taxi service charges $5.00 for the first two miles plus $0.05 for each additional mile. How many miles will a person travel in order to spend an equal amount of money using either service?

12) A video store offers two yearly pricing plans:
A. $15.00 charge plus $2.25 for each movie rented.
B. $3.00 charge (total) for the first 3 movies rented plus $2.50 per movie.

How many movies will a person need to rent in order to spend an equal amount of money using either plan?

13) The uptown parking garage charges $6.25 for the first hour and $0.60 for each additional hour. The downtown parking garage charges $4.75 for the first hour and $0.90 for each additional hour. For how many hours will the two garages charge an equal amount of money?

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14) John is to lease a car. At Westville Toyota, John can lease a Camry for $2,000 down plus $340 per month. Westville will also give him the first two months of his lease free. At Glendale Toyota, they offer him the same car for $3500 down plus $300 per month. Glendale will give him the first three months free. After how many months would both deals cost the same?

~~15) Jessica can paint the bedrooms of her house by herself in 12 hours. Joe, Jessica's father, can do the same job by himself in 20 hours. How long would it take for them to complete the painting job working together?~~

~~16) Hose A can fill a pool by itself in 10 hours. Hose B can fill the pool by itself in 15 hours. How long would it take to fill the pool if both hoses work together?~~

17) A father aged 37 has a son aged 4. In how many years will the father be 4 times as old as his son?

18) One number is five more than another. Their sum is −17. Find the numbers.

19) The larger of two numbers is three less than twice the smaller. Their sum is 30. Find the numbers.

20) Greg weighs twice as much as his sister, Linda. The sum of their weights is 180 pounds. How much does each weigh?

21) In a football game, the Generals outscored twice the Outlaw's point total by five. The teams combined to score 41 points. How many points did each team score?

22) Find two consecutive integers whose sum is 27.

23) Find three consecutive odd integers whose sum is −45.

24) The length of a rectangle is 3 cm more than twice its width. The perimeter of the rectangle is 36 cm. Find the dimensions of the rectangle.

25) In an annual candy sale, Jack sold two more boxes than Andy. Kim sold three times as many as Andy. They sold 37 boxes all together. How many boxes did each person sell?

26) The salaries of three workers are to be as follows: Frank is to earn three times as much as Sue while Sue earns $2 less than Tony. If they earn a combined $27, what is the salary of each person?

27) Kristen is four times as old as Claire. Emily is six years older than Claire and 6 years younger than Sam. Anna is twice as old as Claire. If the sum of their ages is 81, how old is each person?

28) The smaller of two numbers is nine less than the larger. Their sum is −15. Find the numbers.

29) Two friends do yard work for a neighbor. They earn $100. Because Peter supplied the equipment, they decide that he will earn $20 more than Susan. How much will each earn?

30) Tom's age is six years more than twice the age of his brother, Eddie. The sum of their ages is 30. Find their ages.

31) Find three consecutive even integers whose sum is −60.

32) The length of a rectangle is ten in. less than four times the width. The perimeter of the rectangle is 90 inches. Find the dimensions of the rectangle.

33) On a math quiz, Arthur scored twice what Billy scored. Chris scored three points higher than Arthur. They scored 33 points combined. Find each person's quiz score.

34) A family bought four sodas at a movie theatre for a total of $9.30. They bought one small, one medium, one large and one jumbo size. The jumbo cost twice as much as the medium, the medium costs 70 cents more than the small and the large costs twice as much as the small. What was the price of each soda?

35) One angle of a triangle measures 6 degrees more than a second angle. The third angle measures 18 degrees less than twice the sum of the other two. Find the measures of each angle of the triangle.

36) Find three consecutive odd integers such that the largest plus five times the smallest is equal to fifty-two more than twice the middle.

37) Find three consecutive integers such that twice the smallest plus three times the middle is equal to twenty-two less than six times the largest.

38) A wallet contains only $5 bills and $10 bills. The number of $10 bills is four more than the number of $5 bills. The value of the money is $160. How many of each type of bill are in the wallet?

39) A purse contains pennies, nickels, dimes and quarters. The number of pennies is twice the number of nickels. The number of nickels is two more than the number of quarters. There are an equal number of dimes and nickels. The total value of the coins is $2.44. How many of each coin are in the purse?

40) A wallet contains 20 bills consisting of only ten and five-dollar bills. The amount of money in the wallet is $165. How many of each bill is in the wallet?

41) A group of ducks and cows are in a field. They have a total of 65 heads and 226 legs. How many ducks and how many cows are in the field?

42) Students sold hats and T-shirts to raise funds. They sold thirty more shirts than hats. Shirts were sold for $12 and hats were sold for $5. The total collected revenue was $1,040. How many of each item was sold.

43) A wallet contains 35 bills consisting of only twenty-dollar bills and fifty-dollar bills. The amount of money from the twenty-dollar bills is equal to the amount of money from the fifty-dollar bills. How much money is in the wallet?

44) The width of a rectangle is one less than a side of a square. The length of the rectangle is four more than the side of the square. Three times the perimeter of the square is equal to forty-two more than the perimeter of the rectangle. Find the dimensions of both quadrilaterals.

45) Two numbers have a sum of 50. 105 decreased by the larger is equal to 5 less than 7 times the smaller. Find the numbers.

46) The difference of two numbers is 17. If twice the greater number is subtracted from 5 times the lesser, the difference is 2. Find the numbers.

47) Charles is twice as old as Faye. He is also exactly 15 years older than Faye was last year. How old are Charles and Faye?

48) Mrs. Smith is three times as old as her daughter, Sue. Ten years from now she will be twice as old as Sue. How old are Mrs. Smith and Sue?

49) Ellen worked at the China Box packing dishes for shipment. She received 50 cents for each dish she packed successfully and was fined $1.20 for each piece she broke. If she handled 187 pieces and was paid $81.60, how many pieces did she break?

50) Jack and Jill together have 19 paperback books. If Jack lost 3 of his books but Jill doubled her supply, the two of them together would have 30 books. How many does each have now?

51) In a bag of 40 coins there are only nickels and dimes. The total value of the coins in the bag is $3.10. How many of each coin are in the bag?

52) To change to a different style of car seat, a child's weight must be at least 40 pounds. From her birth weight, Jenny tripled in weight and then gained 8 ounces. What is the minimum she could have weighed at birth in order to be able to now use the new car seat. Express your answer in whole pounds and whole ounces.

53) Find the smallest three consecutive integers whose sum is at least 50.

54) The number of adults on a field trip is 5 less than half the number of students. The total number of people on the trip is at most 110. What is the maximum number of adults and students on the trip?

55) A cab ride costs $2.40 for the first half mile and $0.50 for each additional half mile. What is the furthest number of whole miles Jack can travel if he only has $10.00 to spend?

56) Find the largest three consecutive odd integers such that twice the largest increased by 4 times the smallest is not less than 20 less than nine times the middle.

57) A wallet contains only $10 bills and $20 bills. There are 12 more $10-bills than $20 bills. The total amount of money is at least $555. What is the minimum number of each bill that can be in the wallet?

58) Three consecutive integers are such that the sum of the second and third is greater than half the first diminished by 6. What are the smallest possible values for these integers?