

WORD PROBLEMS

- Find the values of five consecutive odd integers whose sum is 355.
- If you add one inch to each side of a square, you get a new square whose area is 15 square units more than the original. What is the perimeter of the original square?
- Find three consecutive odd numbers whose sum is the square of the second odd number.
- A certain two-digit number has the sum of its digits equal to 13. If its digits are reversed, the new number is 27 larger than the original. Find the original number.
- A certain three-digit number has the sum of its digits equal to 18. If its tens and units digits are interchanged, the number is increased by 36. If its hundreds and units digits are interchanged, the number is reduced by 99. Find the original number.
- The numerator of a positive fraction is 5 more than thrice its denominator. If 13 is added to the denominator and 9 is subtracted from the numerator, the resulting fraction is twice the reciprocal of the original number. Find the original fraction.
- The area of a rectangle is 16 square centimeters. If the length were increased by 3 centimeters and the width decreased by 3 centimeters, the area will increase by 9 square centimeters. Find the original dimensions of the rectangle.
- A group of friends decided to rent a room in a resort. To cover the rent expenses, each has to contribute 111 pesos each. However, two of the expected "friends" decided not to go at the last minute and so the share for each person became 185 pesos each. How many friends were there originally?
- Cleverlyn and Junnifer leave the same place at the same time to go back to their respective houses. Cleverlyn's house is 1500 meters away, while Junnifer's house is 2500 meters away. Fortunately, Junnifer's speed is 10 meters per minute faster than Cleverlyn's and so they arrive at their houses at the same time. How long did they walk?
- Diophantus's youth lasted $\frac{1}{6}$ of his life. He grew a beard after $\frac{1}{12}$ more of his life. After $\frac{1}{7}$ more of his life, Diophantus married. Five years later, he had a son. The son lived exactly half as long as his father and Diophantus died just four years after his son's death. How long did Diophantus live?
- You are arranged in line by class number (with class number 1 in front) and a friend directly in front of you tells you that the difference between twice his class number and the class number of the person behind you is 42. What is your class number?
- In a race, Chris ran at a constant speed 24 kph while Rihanna ran at a constant speed of 20 kph. Both of them started the race at the same time. It is known that Chris beat Rihanna by 15 minutes. Find the length of the course.
- A bag of chips costs 10 pesos and a pack of biscuits costs 5 pesos. Vhong brought foods (chips and biscuits only) amounting to exactly 150 pesos. If he brought a total of 22 items, how many of each type of foods did he bring?
- The sum of Joaquin's and Chichay's ages is 31 years while the product of their ages is 240. If Chichay is younger than Joaquin, How old is Chichay?
- Farmers Plaza contains people and sheep. If there are a total of 40 heads and 130 legs in the plaza, how many people were in there?
- There are currently 50 jeeps in the terminal. Some of them have a spare tire and the others do not. If there are a total of 220 jeepney tires in the terminal, how many jeepneys have a spare tire?
- Cerebri are three-headed dogs and minotaurs are bulls with a body of a man. One day in the gates of hell, 666 heads and 1000 legs were spotted. If only cerebri and minotaurs were in the gates of hell at that time, how many of each creature were there?
- At a moment when they were 150 feet apart, Vice Ganda says "I-Dawn Zulueta mo ako", he and Jessica starts running simultaneously towards other. Vice runs at a speed of 3 feet per second and Jessica runs at a speed of 2 feet per second. After how many seconds will Jessica be able to "Dawn Zulueta" Vice?
- Two popstars are on a sidewalk. Harry, which is initially 48 meters away from Zayn, starts running at a constant speed of 10 meters per minute towards one direction. Zayn chases after Harry, running towards the same direction at a speed of 16 meters per minute. How far would Harry be able to run until Zayn catches up on him?
- Three years ago, Ke\$ha's pet dinosaur was four times as old as her. Seven years from now, the dinosaur will only be three times as old as Ke\$ha during that time. How old is the dinosaur?
- Six years ago, Freddie was five times as old as his girlfriend. Five years from now, he will be be three times as old as his girlfriend. How old was Freddie when his girlfriend was born?
- If Bill Gates helps Steve Jobs do a job, the job will be finished 4 hours sooner (as compared to Steve doing it by himself). If Bill can finish the same job alone in 15 hours, how long will it take for Steve Jobs to finish the job alone?

23. Aaron can finish his problem set in 10 hours. After working on it for 6 hours, his best friend Jared started erasing his solutions at a constant rate. Since Aaron was still writing, it took Jared 14 hours to completely erase Aaron's solutions. How many hours will it take Jared to erase a completed problem set when Aaron is not working on it?
24. Michael can paint my lab at in 60 minutes. My baby can paint my lab in 24 minutes. I asked them both to start painting my lab at 9:00 but my baby arrived 25 minutes too late. At what time will they be able to completely paint my lab?
25. Bobfred and his friends wish to have good **clean** fun. That being the case, Bobfred decided to bring alcohol. However, he brought a 200mL bottle of 70% alcohol. If he wishes to make the concentration of the alcohol to drop down to 10%, how many mL of water must he add?
26. Cedric can do a certain job 6 minutes faster than Deniece. Deniece does the job alone for 25 minutes until Cedric decides to help her. If they finish the job together 5 minutes after Cedric starts helping, how fast can Deniece do the whole job if Cedric did not help her?
27. In front of you are two powdered mixtures consisting of sugar and powdered coffee. The first mixture is 2 parts coffee and 1 part sugar and the second one is 5 parts coffee and 1 part sugar. How many grams of the two mixtures must you combine to obtain a 1-kg mixture which is 4 parts coffee and 1 part sugar?
28. The lengths of the sides of a triangle are three consecutive odd integers. If the perimeter of the triangle is 153 inches, how long is the shortest side?
29. Three pipes are connected to a tank. When opened, the red and the blue pipe fills the tank while the yellow pipe drains the tank. The red pipe and the blue pipe can fill the tank in one hour when the yellow pipe is closed. The red pipe can fill half the tank in the same amount of time when the yellow pipe is open. The blue pipe can fill the tank in four hours when the yellow pipe is open. When all three pipes are working, how long must we wait for an empty tank to be filled?
30. Suppose that a rectangle's length is larger than its width. Find the dimensions of a rectangle if its diagonal is 13 inches long and its perimeter is 34 inches.
31. A parabola with equation $y = ax^2 + bx + c$ contains the points (0, 3), (1, 8) and (2, 15). Find the equation of the parabola.
32. Coco likes his coffee tasting like caramel. His cup initially contains a certain amount of coffee with 16% brown sugar. To make it *mas yummy*, he adds an unknown quantity of coffee with 40% brown sugar. If the yummiest coffee has volume 400 mL and 25% brown sugar concentration, find the amount of coffee he added to his initial amount.
33. Betty bought 60 grams of 60% pure butter but it was too bitter. To make it taste better, she buys a bit of 100% pure butter and mixes it with the previous butter to produce a batter of 88% pure butter. How much butter did Betty buy to make the bitter butter better?
34. Jeremiah forgot his favorite song. Fortunately, he remembers that the title of this song was a three digit number. If you interchange the last two digits of the number, the new number will be 27 less than the original. If you reverse the digits, the new number will be 99 less than the original. If the sum of the digits of the title was 7, what is Jeremiah's favorite song?
35. Janet invests money (not necessarily hers) by splitting it into two funds. The first fund yields 12% annual interest while the other yields 7% annually. If she invested a total of P500M and earned P45M after one year, how much money did she put in each fund?
36. Adam Levine was at a payphone trying to call home using all the change he has spent on you – and these consisted only of 1-peso, 5-peso and 10-peso coins. The number of 10-peso coins is one less than twice the number of 5-peso coins. The number of 1-peso coins is one less than the number of coins he has which are not 1-peso coins. If he has a total of 72 pesos with him. How many of each type of coin does he have?
37. Tyra invested a sum of 100,000 pesos to two different banks – Goliath National Bank (GNB) and Marikina River Bank (MRB). GNB offers a 2% annual interest, whereas MRB offers a 0.5% annual interest. If she obtained a total of 875 pesos interest at the end of the year, how much was invested in each of of Tyra's banks?
38. In a game of basketball, points are scored when a player makes a shot. A made field goal is worth two or three points while a made free throw is worth one point. In January 22, 2006, Kobe Bryant scored a total of 81 points, the second-highest single-game point total in NBA history. He did this by making 46 shots, including 28 field goals. Determine the number of 3-point field goals he made during that game.
39. From his Kanye Nest, Kanye West sets out on a Kanye Quest in order to be the Kanye Best. He starts walking at a constant speed for 30 minutes until he decides to take a Kanye Rest. He continues walking at the same speed for another 40 minutes until he reaches his target and subsequently retrieves the Kanye Chest. After doing so, he walks back 5 meters per minute faster than his original speed, without stopping. If Kanye West arrives back at his Kanye Nest after 56 minutes, how far originally was the Kanye Chest from the Kanye Nest?