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Direct and inverse variation worksheets are designed for high schoolers and are divided into subtopics like identifying the type of variation by observing equations, graphs and tables, finding the constant of variation, and much more. The worksheets provide dual levels, level 1 deals with direct and inverse variations, while level 2 deals with direct, inverse, joint and combined variation. A prior knowledge of proportions will definitely be an added advantage. Kick-start your practice with our free worksheets! Recognize Direct and Inverse Variation The quintet multiple response pdf worksheets have exercises for learners to observe equations, graphs and recognize the type of variation as direct (linear graph) or inverse (rectangular hyperbola). Direct and Inverse Variation - Equation Equations representing the direct variation are in the form $y = kx$ and inverse variation is in the form $xy = k$. Identify the type of variation in the equations featured in these printable worksheets. Also, find the constant of variation (k). Complete the Table This set of pdf worksheets consist of exercises in tabular format. Find the constant of variation (k) and complete the table. Worksheet on direct variation word problems there are various types of questions to practice. Students can recall how to solve word problems on direct variation and then try to solve the worksheet on direct variation or direct proportion.1. If 8 oranges cost \$ 10.40, how many oranges can be bought for \$ 33.80? (a) 21 (b) 23 (c) 25 (d) 26 2. If 18 dolls cost \$ 630, how many dolls can be bought for \$ 455? (a) 9 (b) 11 (c) 13 (d) 153. If a man earns \$ 805 per week, in how many days he will earn \$ 1840? (a) 7 days (b) 16 days (c) 19 days (d) 23 days4. If car covers 102 km in 6.8 litres of petrol, how much distance will it cover in 24.2 litres of petrol? (a) 363 km (b) 330 km (c) 375 km (d) 396 km5. On a particular day, 200 US dollars are worth Rs 9666. On that day, how many dollars could be bought for Rs 5074.65? (a) 105 US dollars (b) 117 US dollars (c) 127 US dollars (d) 131 US dollars 6. If 5 men or 7 women earn \$ 525 per day, how much would 7 men and 13 women earn per day? (a) \$ 1331 (b) \$ 1816 (c) \$ 1710 (d) \$ 1041 7. The cost of 16 bags of washing powder, each weighing 1.5 kg, is \$ 672. Find the cost of 18 bags of the same, each weighing 2 kg. (a) \$ 1008 (b) \$ 1128 (c) \$ 1338 (d) \$ 1000 8. If 3 persons can weave 168 shawls in 1 4 days, how many shawls will be woven by 8 persons days? (a) 153 (b) 189 (c) 127 (d) 1609. If the cost of transporting 160 kg of goods for 125 km is Rs 60, what will be the cost of transporting 200 kg of goods for 400 km? (a) \$ 118 (b) \$ 196 (c) \$ 240 (d) \$ 27510. If the wages of 12 workers for 5 days are \$ 7500, find the wages of 17 workers for 6 days. (a) \$ 10943 (b) \$ 11057 (c) \$ 12750 (d) \$ 13473Answers for worksheet on direct variation are given below to check the exact answers of the question. Answers: 1. 26 2. 13 3. 16 4. 363 km 5. 105 US dollars 6. \$ 1710 7. \$ 1008 8. 160 9. \$ 240 10. \$ 12750 ● Ratio and Proportion (Direct & Inverse Variation)Direct VariationInverse VariationPractice Test on Direct Variation and Inverse Variation● Ratio and Proportion - WorksheetsWorksheet on Direct VariationWorksheet on Inverse Variation 8th Grade Math PracticeFrom Worksheet on Direct Variation to HOME PAGE Didn't find what you were looking for? Or want to know more information about Math Only Math. Use this Google Search to find what you need. Share this page: What's this? Problem 1-3 : Tell whether each equation represents a direct variation. If so, identify the constant of variation.Problem 1 :y = 4xProblem 2 :-2x + 3y = 0Problem 3 :3x + 2y = 6Problem 4 :7 : Tell whether each relationship is a direct variation. Explain.Problem 4 : Problem 5 : Problem 6 : Problem 7 : Problem 8 :The value of y varies directly with x, and y = 8 when x = 2. Find y when x = 5.Problem 9 :The value of y varies directly with x, and y = 4.5 when x = 0.5. Find y when x = 10.Problem 10 :The three-toed sloth is an extremely slow animal. On the ground, it travels at a speed of about 6 feet per minute. Write a direct variation equation for the distance y a sloth will travel in x minutes. Then graph. 1. Answer : This equation represents a direct variation, because it is in the form y = kx. The constant of variation is 4.2. Answer : -2x + 3y = 0Solve the equation for y.Because -2x is added to 3y, add 2x to each side.3y = 2xBecause y is multiplied by 3, divide each side by 3.3y/3 = 2x/3y = (2/3)xThis equation represents a direct variation, because it can be written in the form y = kx. The constant of variation is 2/3.3. Answer : 3x + 2y = 6Solve the equation for y.Because 3x is added to 2y, subtract 3x from each side. 2y = -3x + 6Because y is multiplied by 2, divide each side by 2.2y/2 = (-3x + 6)/2y = -3x/2 + 6/2y = -3x/2 + 3This equation does not represent a direct variation, because it cannot be written in the form y = kx.4. Answer : Write an equation that represents the relationship given in the table above. y = 6xEach y-value is 6 times the corresponding x-value.This is a direct variation.Because the equation y = 6x is in the form of y = kx, where k = 6.5. Answer : Write an equation that represents the relationship given in the table above. y = x - 4Each y-value is 4 less than the corresponding x-value.This is a not direct variation. Because the equation y = x - 1 is not in the form of y = kx.6. Answer : Write an equation that represents the relationship given in the table above. y = -4xEach y-value is -4 times the corresponding x-value.This is a direct variation. Because the equation y = -4x is not in the form of y = kx, where k = -4. 7. Answer : From the table, we have the following ordered pairs.(-2, 5), (1, 3) and (4, 1)Plotting the above points in xy-plane, we get a straight line with slope -2/3 and y-intercept 11/3So, the equation isy = -2x/3 + 11/3This is not a direct variation. Because the above equation is not in the form of y = kx. 8. Answer : It is given that y varies directly with x. Write the equation for a direct variation.y = kxSubstitute 8 for y and 2 for x. 8 = k(2)8 = 2kDivide each side by 2.8/2 = 2k/24 = kThe equation isy = 4xFind y, when x = 5.y = 4(5)y = 209. Answer :It is given that y varies directly with x. Write the equation for a direct variation.y = kxSubstitute 4.5 for y and 0.5 for x. 4.5 = k(0.5)4.5 = 0.5kDivide each side by 0.5.4.5/0.5 = 0.5k/0.59 = kThe equation isy = 9xFind y, when x = 10.y = 9(10)y = 9010. Answer : Step 1 : Write a direct variation equation. Step 2 : Choose values of x and generate ordered pairs. Step 3 : Graph the points and connect. Kindly mail your feedback to v4formath@gmail.comWe always appreciate your feedback. ©All rights reserved. onlinemath4all.com Learn how to solve problems like the following; x varies directly with y. If x = 4 when y = 14, find y when x = 2 You will solve these word problems dealing with direct variation between variables. Example: The distance of a train from a station, varies directly with the time. I. If d = 100 miles when t = 2 hours, find d when t = 3. The problems on this worksheet are much different than worksheet 1. You will find a mix of word and number based problems. Example: If x varies directly with y and x is 21 when y is 10, find the constant of variation. Review the steps to solving equations dealing with direct variation between variables. Example: In the following chart, does one variable vary directly with the other. Practice solving these direct variation problems that are all number based. Example: p varies directly with q". If p = 3 when q = 21, find p when q = 3. Solve these 10 problems and then score how many answers you got correct. Example: If x varies directly with y and x is 24 when y is 10, find the constant of variation. This is a great way to see how much work you might or might not need to put in. Complete these 3 problems, then put your answer in the "My Answer" box for each. This can help you review or introduce this skill to students. Direct variations are an integral part of mathematics you regularly encounter when studying. Many people find direct variations to be confusing. If you are one of them, read here to learn what direct variations are and how to solve them. Direct variations are a category of proportionality. They show how one variable relates varies with another. Direct variation indicates a linear relationship between two variables. Direct variation is also called direct proportionality. Two variables that increase and decrease by the same amount are directly proportional. If one quantity increases or decreases, the other follows suit. For example, the height of the wall is directly proportional to the number of bricks. If the number of bricks in the wall increase, so does the height. Direct variation is formulated using the symbol '∝', which shows that two values follow direct variation. For example, if two values, x, and y, are directly proportional, they are expressed as y ∝ x. The two values, y, and x, increase and decrease by the same factor. This factor is constant. This means that it will not change even if the values themselves do. We can denote this factor as the constant 'k', so the formula y ∝ x becomes y =kx or x = y/k (where the constant becomes 1/k). Solving Direct Variation Problems Solving direct variation problems is easy once you understand the formula. Since the constant does not change, you need to figure out the constant, and the values of y or x can be found, given that one of the values is given. To better understand the concept, let's look at some examples: Example 1: The number of cookies made varies directly with the flour used. If 12 cookies require 2 cups of flour, how many cookies can you make with 6 cups of flour? Let y = number of cookies made and x = flour used. Since the two are directly proportional, we can write them as y = kx to find k, we use y = 12 and x= 2 12 = k (2)k = 12/6k = 2. Now we used this value of k and the x = 6 to find y, y = kxy = 12 Twelve cookies can be made using six cups of flour. Example 2: The number of cookies made varies directly with the flour used. If making 36 cookies requires 3 cups of flour, how much flour would you need to make 72 cookies? Let y = number of cookies and x = flour used. Since the two are directly proportional, we can write them as, y = kx we use y = 36 and x = 3 to find the value of k. 36 = k (3)k = 12now, we use the value of k and y = 72 to find x,y = kxx = y/kx = 72/12x = 6 You would need six cups of flour to make seventy-two cookies. Conclusion Direct variations are easy to do once you get the concept. But understanding the concept only gets you halfway to mastering direct variation questions. The other half you will cover after practicing these questions. Practice makes perfect!

