Skill Writing Equations Of Lines Investigation 2

scatter plots and equations of lines 350 chapter 6 linear equations and their graphs lesson 1 6 use the data in each table to draw a scatter plot 12 see back of book 1 2 new vocabulary line of best t correlation coefficient x 1 y 2 3 4 21 9 5 7 12 15 x 1 y 2 3 4 2 9 5 25 8 3 what you'll learn to write an equation for a you can write the following equation to represent the situation 2x 4 12 or you can use nicholes method from problem 3 2 to write this equation 2x 2 12 the expressions two or more expressions two or more expressions are equivalent if skills check 2 graph a line given an equation in slope intercept graph horizontal amp vertical lines special cases write an equation in slope intercept form given standard form skills check 3 write an equation in slope intercept form given standard form graph a line given equation in standard form write an equation of a line from a graph write the standard form of the equation of the line through the given point with the given slope 9 through 1 writing linear equations data period write the slope intercept form of the equation of each line 1 3 x 2y 16 y 3 2x 8 2 writing linear equations simultaneously work on the problems of this lesson will develop your skill in writing interpreting and solving systems of linear equations investigation 1 solving with graphs and substitution there are several different methods for solving systems of linear equations writing algebra equations finding the equation of a line given two points we have written the equation of a line in slope intercept form and standard form we have also written the equation of a line when given slope and a point now we are going to take it one step further and write the equation of a line when we are only given two points that are on that line mixed review with answer key fully worked out on writing equations of lines given either two points 1 point and slope 1 point and a parallel line etc write equation of line worksheet with answer key this is an investigation worksheet which involves the students graphing parallel and perpendicular lines and then finding the relationship between the gradients other topics covered processes and applications functions and graphs this worksheet can we would like to show you a description here but the site won't allow us video unavailable watch queue watch queue watch queue queue in this video we practice writing the equation of a line in slope intercept form when we are given a point and the equation of a line that is parallel or perpendicular to it category education in this chapter students solidify their understanding of the slope intercept form of a linear equation they write the equation for a linear relationship in slope intercept form given a slope and y intercept two points or a graph they also write equations in slope intercept form from a given context in conjunction with writing equation of a straight line showing top 8 worksheets in the category equation of a straight line some of the worksheets displayed are name equation of a line 1 writing linear equations skill 2 14 straight line graphs mep y8 practice book b straight line investigation 1 work finding the equation of a line given two points practice coordinate geometry investigation 2 linear models and equations and equations ace 4 the table gives average weights of purebred chihuahuas from birth to age 16 weeks see student text a graph the age weight data and draw a line that models the data pattern b write an equation in the form y mx b for your line explain what the values of m and b investigation 2 1 linear models standard form of a line y mx b x is the independent variable y is the dependent variable m is the slope pattern in table constant rate of change m rise run b is the y intercept starting point part a refer to the table given in problem part a in page 25 first state bridge painting costs in grade 8 students learned how to solve linear equations we drill deeper in this course focusing more attention on the idea of equivalence or the skill of manipulating equations to rewrite them in an equivalent form equation of a straight line showing top 8 worksheets in the category equation of a straight line some of the worksheets displayed are name equation of a line 1 writing linear equations skill 2 14 straight line graphs mep y8 practice book b straight line investigation 1 work finding the equation of a line given two points practice coordinate geometry write the slope intercept form of the equation of the line through the given points 1 through 0 3 and 4 1 write the equation of the line through the given points algebra 1 write the equation of the line given two points chapter 2 3 writing equations of lines given appropriate information about the graph of a line be able to write a suitable equation or formula for that graph skills to learn 1 know how to write an equation of a line given information in its point slope format 2 know how to write an equation of a line given its slope intercept graph a line given a function on a coordinate graph write one or two questions on each student work or give each student a printed version of your list of questions and highlight the questions for each individual student show me the equations of two lines that are perpendicular to each other e g try to write an equation for each line 7 the graphs in a and b are linear the equation for a is y 3x 1 and the equation for b is y 2x 7 the patterns in c and d are not linear because there is no constant rate of change a 100 brochures methods will vary students may graph the two equations and find the intersection point they geometry skill set name ©c d2i0 1tyv2d kkiutt ea u fecqcztnwaalr 8ei olmlge v 1 k 1 xuli 7rqi wg xh7lfef 1 or 7e8be fr4vue qj 1 2 write equations for lines write the slope intercept form of the equation of each line given the slope and y intercept 5 slope 2 3 y intercept 1 slope 2 3 y intercept 1 slope 4 5 linear equations slope doc or coord geometry slope more practice find the equation of the line that passes through the points 2 3 and 1 6 the first step is to find the slope of the line that goes through those two points now that you have a slope you can use the point slope form of a line you also have two points use can use to check students prior knowledge and mastery of algebra i skills writing equations of lines and using slope to determine whether lines are parallel perpendicular or neither students will take the quiz writing equations version b the quiz asks students to write graph and manipulate linear equations student performance on the line representing the equation we can also nd a solution to an equation by using a
We need to practice writing linear equations. Here are some examples:

1. **Slope-Intercept Form**: The equation of a line in slope-intercept form is given by $y = mx + b$, where $m$ is the slope and $b$ is the y-intercept.

2. **Point-Slope Form**: If you know a point $(x_1, y_1)$ on the line and the slope $m$, the equation of the line is $y - y_1 = m(x - x_1)$.

3. **Two-Point Form**: Given two points $(x_1, y_1)$ and $(x_2, y_2)$ on the line, the equation of the line is $\frac{y - y_1}{y_2 - y_1} = \frac{x - x_1}{x_2 - x_1}$.

4. **Intercept Form**: If the line intersects the x-axis at $(a, 0)$ and the y-axis at $(0, b)$, the equation of the line is $\frac{x}{a} + \frac{y}{b} = 1$.

5. **Standard Form**: The equation of a line in standard form is $Ax + By + C = 0$, where $A$, $B$, and $C$ are constants.

**Example 1**: Find the equation of the line passing through the points $(2, 3)$ and $(4, 5)$.

- **Step 1**: Find the slope of the line. The slope $m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{5 - 3}{4 - 2} = 1$.
- **Step 2**: Use the point-slope form. For the point $(2, 3)$, the equation is $y - 3 = 1(x - 2)$.
- **Step 3**: Simplify to slope-intercept form. $y = x + 1$.

**Example 2**: Write the equation of the line parallel to $y = 2x + 5$ and passing through $(3, 4)$.

- **Step 1**: The slope of the parallel line is the same as the given line, $m = 2$.
- **Step 2**: Use the point-slope form with the point $(3, 4)$. $y - 4 = 2(x - 3)$.
- **Step 3**: Simplify to slope-intercept form. $y = 2x - 2$.

**Example 3**: Write the equation of the line perpendicular to $y = -\frac{1}{2}x - 3$ and passing through $(1, -2)$.

- **Step 1**: The slope of the perpendicular line is the negative reciprocal of $\frac{1}{2}$, so $m = 2$.
- **Step 2**: Use the point-slope form with the point $(1, -2)$. $y + 2 = 2(x - 1)$.
- **Step 3**: Simplify to slope-intercept form. $y = 2x - 4$.

**Example 4**: Write the equation of the line that passes through $(1, 2)$ and $(3, 6)$.

- **Step 1**: Find the slope $m = \frac{6 - 2}{3 - 1} = 2$.
- **Step 2**: Use the point-slope form with the point $(1, 2)$. $y - 2 = 2(x - 1)$.
- **Step 3**: Simplify to slope-intercept form. $y = 2x$.

These are just a few examples of how to write equations of lines. Practice these methods with different points and slopes to improve your skills.