

7.0

4 CST items

Students verify that a point lies on a line, given an equation of the line. Students are able to derive linear equations ~~using the point-slope formula.~~

Key Vocabulary

Point

Solution

Line

Linear Equation

Data Table

Substitution

Standard Form

Slope-Intercept Form

Instructional Objectives

- | 1 | Plot points from a data table and find the linear equation of the fit line. | 1 | Graph the data with <i>hours</i> on the horizontal axis and <i>pay</i> on the vertical axis. | <table border="1"> <thead> <tr> <th><i>hours</i></th> <th><i>pay</i></th> </tr> </thead> <tbody> <tr> <td>2</td> <td>28</td> </tr> <tr> <td>5</td> <td>52</td> </tr> <tr> <td>10</td> <td>92</td> </tr> </tbody> </table> | <i>hours</i> | <i>pay</i> | 2 | 28 | 5 | 52 | 10 | 92 |
|----|---|--------------|---|---|--------------|------------|---|----|---|----|----|----|
| | | <i>hours</i> | <i>pay</i> | | | | | | | | | |
| | | 2 | 28 | | | | | | | | | |
| | | 5 | 52 | | | | | | | | | |
| 10 | 92 | | | | | | | | | | | |
| 2 | What is the equation of a line that fits the data? | | | | | | | | | | | |
| 3 | How many <i>hours</i> corresponds to a <i>pay</i> of \$36? | | | | | | | | | | | |
| 4 | What <i>pay</i> corresponds to 20 <i>hours</i> ? | | | | | | | | | | | |
| 2 | Given the equation of a line, determine if a point lies on the line by graphing and inspecting. | 1 | Does (4, 0) lie on the graph of $y = 2x - 8$? | | | | | | | | | |
| | | 2 | Does (-10, 12) lie on the graph of $3x + 5y = 30$? | | | | | | | | | |
| | | 3 | Is (0, 2) a solution to $y = -5x + 10$? | | | | | | | | | |
| | | 4 | Is (-10, -2) a solution to $4x - 8y = -24$? | | | | | | | | | |
| 3 | Given the equation of a line, use substitution to determine if a point lies on the line. | 1 | Does (8, -11) lie on the graph of $y = \frac{1}{2}x - 15$? | | | | | | | | | |
| | | 2 | Does (2.5, .25) lie on the graph of $4x + 8y = 12$? | | | | | | | | | |
| | | 3 | Is (-5, 15) a solution to $y = x + 10$? | | | | | | | | | |
| | | 4 | Is (5.4, -2) a solution to $10x + 20y = 14$? | | | | | | | | | |
| 4 | Determine the equation of a line given any two points on the line. | 1 | What is the equation of the line containing (0, 0) and (2, 2) ? | | | | | | | | | |
| | | 2 | What is the equation of the line containing (0, 4) and (8, 0) ? | | | | | | | | | |
| | | 3 | What is the equation of the line containing (-2, 5) and (4, 2) ? | | | | | | | | | |
| | | 4 | What is the equation of the line containing (-8, -5) and (4, 4) ? | | | | | | | | | |
| 5 | Given the slope of a line and any point on the line, determine the equation of the line. | 1 | What is the equation of a line with a slope of 2 and that passes through the point (-4, 4) ? | | | | | | | | | |
| | | 2 | What is the equation of a line with a slope of $-\frac{3}{4}$ and that passes through the point (12, 6) ? | | | | | | | | | |
| | | 3 | What is the equation of a line with a slope of 0 and that contains the point (-7, -3) ? | | | | | | | | | |
| | | 4 | What is the equation of a line with an undefined slope and that contains the point (6, -14) ? | | | | | | | | | |