

Algebra 1
Writing Slope-Intercept Equations

Writing Slope-Intercept Equations | A1-U05-P07

96 problems · Four activity formats

01	Answer Bank Challenge	24 tasks
02	Grid Rounds	24 tasks
03	Match & Move	24 cards
04	Error Analysis & Strategy	24 tasks
05	Quick Answer Key	96 answers
06	Full Worked Solutions	96 solutions
07	Teacher / Parent Use Guide	included
08	Terms of Use & License	included

Topic focus
Across 96 tasks this topic asks for an exact slope-intercept equation or justified family verdict.
8 PDFs and a README; 47 buyer pages.

Algebra 1

Writing Slope-Intercept Equations

Name: _____ Date: _____ Class: _____

Answer each question and record the matching bank letter. Give exact values. Give the whole requested response, including any reasoning the question asks for.

A line has slope 0 and vertical intercept 9. Encode the horizontal line in slope-intercept form. _____ Bank label: _____	A line has slope 0 and vertical intercept -5. Encode the horizontal line in slope-intercept form. _____ Bank label: _____
A line has slope 0 and vertical intercept 0. Encode the horizontal line in slope-intercept form. _____ Bank label: _____	For $m = -2$ through $(3, 1)$, a student records $b = 1 - 2(3) = -5$. Is subtracting $2(3)$ valid here? State the sign error and the correct value of b. _____ Bank label: _____
A line is specified by slope 6 and vertical-intercept value 3. Write its equation with signs simplified. _____ Bank label: _____	A line has $m = \frac{2}{5}$ through $(5, 4)$. Work uses $\frac{5}{2}$ in $y = mx + b$ and obtains $b = -\frac{17}{2}$. Repair it. _____ Bank label: _____
With slope -3 and x-intercept $(4, 0)$, a student writes $b = 4$. Correct the roles. _____ Bank label: _____	Write the slope-intercept rule for the line with slope -2 through $(3, 1)$. Preserve signs when solving for b. _____ Bank label: _____

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Answer each question and show your reasoning in the workspace. Give exact values rather than decimals unless the question supplies a decimal. Give the whole requested response, including any reasoning the question asks for.

The required line has slope 2 and passes through (1, 3). A student proposes $y = 2x + 1$. Verify both slope and point membership, repairing it if needed. 	Slope 2 and point (3, 7) are given. A student sets $b = 7$ and writes $y = 2x + 7$. Diagnose the intercept mistake.
The required line has slope -3 and passes through (2, 1). A student proposes $y = -3x + 4$. Verify both slope and point membership, repairing it if needed. 	For slope -1 through (2, 5), work substitutes $x = 5, y = 2$ and gets $b = 7$. Repair the coordinate use.
The slope is 0 and the line contains (0, -2). Recover b and write the horizontal equation. 	A line has supplied slope 1 and contains the y-axis point (0, 7). Write its slope-intercept equation.

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Evaluate the supplied statement or method. Say whether it is correct, repair it if it is not, and verify the result exactly. Not every prompt contains an error.

The required line has slope $-\frac{2}{3}$ and passes through $(3, 1)$. A student proposes $y = -x + 3$. Verify both slope and point membership, repairing it if needed.

Choose and justify an efficient method, then complete the task. The facts are: the line contains $(0, 4)$ and $b = 4$. Do they determine m ?

Complete the task, then compare two valid approaches or representations and justify which is clearer for the supplied information. The required line has slope 3 and passes through $(-2, 4)$. A student proposes $y = 3x - 2$. Verify both slope and point membership, repairing it if needed.

Complete the task, then compare two valid approaches or representations and justify which is clearer for the supplied information. The required line has slope $\frac{5}{4}$ and passes through $(4, 3)$. A student proposes $y = (\frac{5}{4})x$. Verify both slope and point membership, repairing it if needed.

Writing Slope-Intercept Equations

Full Worked Solutions - excerpt

Worked example

Problem. A line has slope 0 and vertical intercept 9. Encode the horizontal line in slope-intercept form.

Answer. The slope-intercept equation is $y = 9$.

Explanation and check.

Insert $m = 0$ as the x coefficient and $b = 9$ as the constant; this gives $y = 9$.

Worked example

Problem. A line has slope 0 and vertical intercept -5 . Encode the horizontal line in slope-intercept form.

Answer. The slope-intercept equation is $y = -5$.

Explanation and check.

Insert $m = 0$ as the x coefficient and $b = -5$ as the constant; this gives $y = -5$.