

Algebra 1
Point-Slope Form

Point-Slope Form of a Linear Equation | A1-U05-P08

96 problems · Four activity formats

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Topic focus
Across 96 tasks this topic asks for an exact anchored equation, graph, or justified representation verdict.
8 PDFs and a README; 54 buyer pages.

Algebra 1

Point-Slope Form

Name: _____ Date: _____ Class: _____

Answer each question and record the matching bank letter. Give exact values. A value without its unit is not a complete answer.

The line is $y + 3 = (3)(x + 1)$. Test whether $(0, 0)$ can serve as an alternate anchor; if it can, write the equivalent point-slope form. _____ Bank label: _____	Choose an efficient method, explain why it fits the given representation, and then complete the task exactly. Interpret the point-slope equation $y - 2 = -(x - 6)$. State its encoded anchor point and slope, explaining every plus sign inside a difference. _____ Bank label: _____
The line is $y + 4 = -(x - 4)$. Test whether $(0, 0)$ can serve as an alternate anchor; if it can, write the equivalent point-slope form. _____ Bank label: _____	Complete the task, then compare the direct formula approach with an equivalent check. Explain why both support the same conclusion. Interpret the point-slope equation $y - 9 = 0(x - 4)$. State its encoded anchor point and slope, explaining every plus sign inside a difference. _____ Bank label: _____
Interpret the point-slope equation $y + 2 = (-5)(x - 3)$. State its encoded anchor point and slope, explaining every plus sign inside a difference. _____ Bank label: _____	The line is $y - 1 = (4)(x - 2)$. Test whether $(5, 13)$ can serve as an alternate anchor; if it can, write the equivalent point-slope form. _____ Bank label: _____
Interpret the point-slope equation $y - 8 = (6)(x + 1)$. State its encoded anchor point and slope, explaining every plus sign inside a difference. _____ Bank label: _____	Choose an efficient method, explain why it fits the given representation, and then complete the task exactly. The line is $y - 5 = (-2)(x - 3)$. Test whether $(-1, 13)$ can serve as an alternate anchor; if it can, write the equivalent point-slope form. _____ 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. A value without its unit is not a complete answer.

Write point-slope form for slope 2 through (3, 5). 	Determine whether the anchored equations $y - 1 = (2)(x)$ and $y - 7 = (2)(x - 3)$ define the same line. Compare direction and anchor incidence without converting both to slope-intercept form.
Determine whether the anchored equations $y - 4 = -(x)$ and $y - 5 = -(x - 2)$ define the same line. Compare direction and anchor incidence without converting both to slope-intercept form. 	For slope 2 through $(-3, 5)$, work writes $y - 5 = 2(x - 3)$. Diagnose the anchor sign.
A line has slope 3 and anchor $(-2, 4)$. Write point-slope form, simplifying subtraction of negative coordinates correctly. 	A line has slope 1 and anchor $(-4, -3)$. Write point-slope form, simplifying subtraction of negative coordinates correctly.

Algebra 1**Point-Slope Form****Name:** _____ **Date:** _____ **Class:** _____

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.

Choose an efficient method, explain why it fits the given representation, and then complete the task exactly. Interpret the point-slope equation $y - 5 = (2)(x - 3)$. State its encoded anchor point and slope, explaining every plus sign inside a difference.

Choose an efficient method, explain why it fits the given representation, and then complete the task exactly. Points $(3, -2)$ and $(3, 5)$ are vertical. Explain why finite- m point-slope form fails and give the valid equation.

Point-Slope Form

Full Worked Solutions - excerpt

Worked example

Problem. The line is $y + 3 = (3)(x + 1)$. Test whether $(0, 0)$ can serve as an alternate anchor; if it can, write the equivalent point-slope form.

Answer. Yes. The point lies on the line, and an equivalent anchored equation is $y = (3)(x)$.

Explanation and check.

The displacement from the original anchor has ratio

$$\frac{3}{1} = 3$$

retain the slope and recenter both differences.

Worked example

Problem. Choose an efficient method, explain why it fits the given representation, and then complete the task exactly. Interpret the point-slope equation $y - 2 = -(x - 6)$. State its encoded anchor point and slope, explaining every plus sign inside a difference.

Answer. The equation $y - 2 = -(x - 6)$ encodes anchor $(6, 2)$ and slope -1 .

Explanation and check.

Use the given symbolic relation directly, simplify exactly, and verify the result in the original relation. Match the form to $y - y_0 = m(x - x_0)$: the differences identify $(6, 2)$, and the direction parameter is -1 .