

Algebra 1
Linear Graphs & Transformations | Algebra 1 | 3-Topic Bundle

3-topic bundle | 288 problems | Four activity formats

01 Interpreting Slope-Intercept Form

[View individual product and its full preview](#)

02 Graphing Slope-Intercept Form

[View individual product and its full preview](#)

03 Transformations of Linear Functions

[View individual product and its full preview](#)

In every topic

Answer Bank Challenge	24 tasks
Grid Rounds	24 tasks
Match & Move	24 cards
Error Analysis & Strategy	24 tasks
Quick Answer Key and Full Worked Solutions	included
Teacher / Parent Use Guide and Terms of Use	included

Product previews

The following preview pages show the cover, all four activity formats, and worked examples for each included resource, in the listed order.

24 PDFs and 3 READMEs; 228 buyer PDF pages across the 3 products.

Preview pages are not included in the buyer page count. Check the list against resources you already own.

This is a fixed collection of the listed products. Purchase includes the existing individual resource files. To open a product's online preview, follow its title link and select View Preview.

Algebra 1
Interpreting Slope-Intercept Form

Interpreting Slope-Intercept Form | A1-U05-P05
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 identified or interpreted slope and vertical intercept with justification.
8 PDFs and a README; 55 buyer pages.

Algebra 1

Interpreting Slope-Intercept 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.

Give the exact y-intercept point for $y = (\frac{3}{5})x + \frac{7}{2}$. _____ Bank label: _____	An account model is $B = 25m - 40$ dollars after m months. Interpret the rate and the signed zero-month value. _____ Bank label: _____
Locate the vertical intercept of $y = -(\frac{4}{7})x - \frac{5}{3}$ using exact coordinates. _____ Bank label: _____	A walker has $d = t$, with d in meters and t in seconds. Explain the implicit m and b. _____ Bank label: _____
Write the y-axis crossing of $y = 0.8x + 2.5$ as (x, y). _____ Bank label: _____	For $y = 5 - 2x$, an annotation says $m = 5$ and $b = -2$. Audit the term roles. _____ Bank label: _____
What intercept point follows from $b = -3.4$ in $y = -1.2x - 3.4$? _____ Bank label: _____	A graph for $y = 7x$ marks the origin and $(1, 7)$, but annotates $m = 7$ and vertical intercept $(0, 7)$. Which part is inconsistent? _____ Bank label: _____

Algebra 1

Interpreting Slope-Intercept Form

Name: _____ Date: _____ Class: _____

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.

Explain the roles of 4 and 3 in the displayed rule $y = 4x + 3$. 	A student says the slope of $y = 3x + 8$ is 8 because it is the last number. Diagnose the reading.
From $y = 2x + 5$, give the vertical-intercept point as an ordered pair. 	A savings plan is $S = 18w + 45$, with S in dollars and w in weeks. Interpret m and b.
Where does the line $y = 4x - 7$ meet the y-axis? Answer with coordinates. 	Tank volume follows $V = -8t + 120$, where t is minutes and V is liters. State what both parameters mean.

Algebra 1

Interpreting Slope-Intercept 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.

The exact graph for $y = -x$ marks $(0, 0)$, $(3, -3)$ and is annotated $m = -1$, $b = 0$. Verify the labels.

A table header for $y = -0.6x - 1.4$ lists rate 0.6 and start 1.4. Audit all signs and translate the start to a point.

A horizontal graph through $(0, 5)$, $(4, 5)$ is labeled $m = 5$ and $b = 5$ for $y = 5$. Audit the labels.

A student labels $x = 7$ with $m = 0$ and $b = 7$ as though it were $y = 0x + 7$. Explain why this is not a valid parameter reading for slope-intercept form.

Interpreting Slope-Intercept Form

Full Worked Solutions - excerpt

Worked example

Problem. Give the exact y -intercept point for $y = (\frac{3}{5})x + \frac{7}{2}$.

Answer. The vertical-intercept point for $y = (\frac{3}{5})x + \frac{7}{2}$ is $(0, \frac{7}{2})$.

Explanation and check.

At the y -axis $x = 0$. Substituting removes the x -term and leaves $y = \frac{7}{2}$, hence $(0, \frac{7}{2})$.

Worked example

Problem. An account model is $B = 25m - 40$ dollars after m months. Interpret the rate and the signed zero-month value.

Answer. In $B = 25m - 40$, when one month passes, balance increases by \$ 25; the balance is -\$ 40 at month 0.

Explanation and check.

The x -variable coefficient describes output change per one input unit: balance increases by \$ 25. The constant describes the zero-input output: the balance is -\$ 40 at month 0.

Algebra 1
Graphing Slope-Intercept Form

Graphing Slope-Intercept Form | A1-U05-P06

96 problems · Four activity formats

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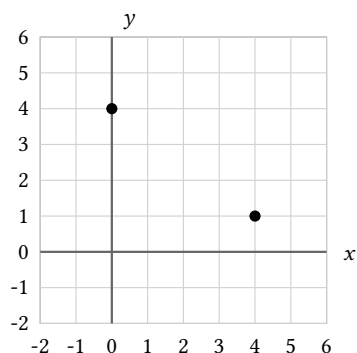
Topic focus
Across 96 tasks this topic asks for an exact graph construction or verification with stated domain.
8 PDFs and a README; 118 buyer pages.

Algebra 1

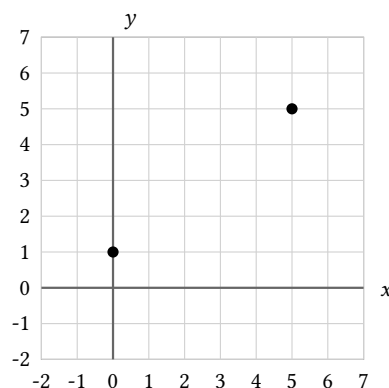
Graphing Slope-Intercept Form

Name: _____ Date: _____ Class: _____

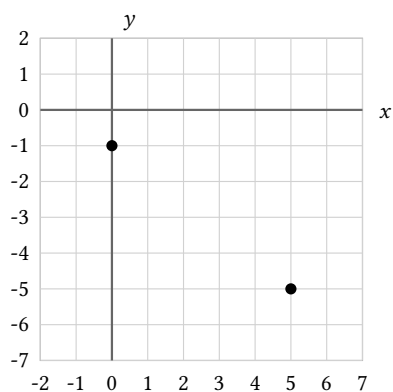
Answer each question and record the matching bank letter. Give exact values. A value without its unit is not a complete answer.

Graph $y = -(\frac{3}{4})x + 4$ by the intercept-and-step method. Specify the starting point and one correctly directed second point.

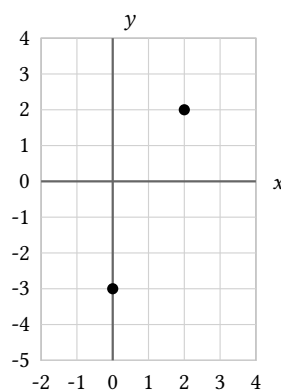
Bank label: _____

Use slope-intercept construction for $y = (\frac{4}{5})x + 1$. Which two exact points can anchor the graph?

Bank label: _____

Graph $y = -(\frac{4}{5})x - 1$ by the intercept-and-step method. Specify the starting point and one correctly directed second point.

Bank label: _____

Use slope-intercept construction for $y = (\frac{5}{2})x - 3$. Which two exact points can anchor the graph?

Bank label: _____

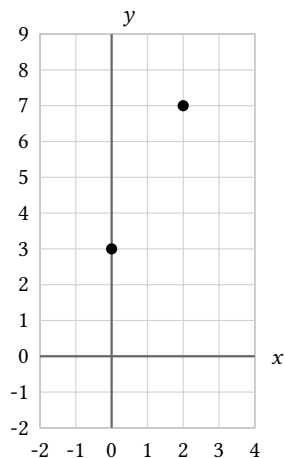
Algebra 1

Graphing Slope-Intercept Form

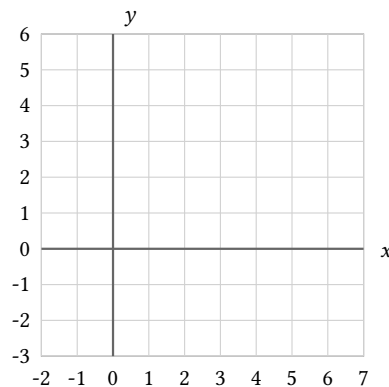
Name: _____ Date: _____ Class: _____

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.

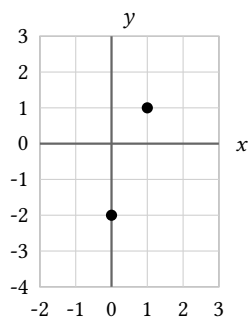
Use slope-intercept construction for $y = 2x + 3$. Which two exact points can anchor the graph?



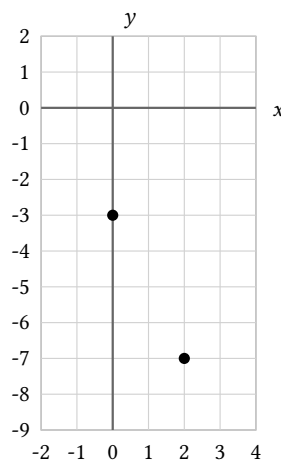
Graph $y = -x + 4$ only on the domain closed at $x = 0$ and closed at $x = 5$. Describe the exact plotted set and every endpoint style.



Use slope-intercept construction for $y = 3x - 2$. Which two exact points can anchor the graph?



Graph $y = -2x - 3$ by the intercept-and-step method. Specify the starting point and one correctly directed second point.



Algebra 1

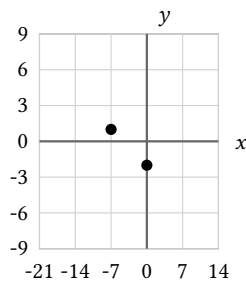
Graphing Slope-Intercept Form

Name: _____ Date: _____ Class: _____

Begin at START. Answer the card, then find the matching final answer at the top of another card. Use the recording sheet for your reasoning. Visit each card once and continue to FINISH.

Incoming: Start at $(0, 2)$; move -2 horizontal squares and -1 vertical squares to $(-4, -3)$.

Graph $y = -\left(\frac{3}{7}\right)x - 2$ from its vertical intercept on axes scaled 7 per x -square and 3 per y -square. Describe an efficient leftward step.



Your response: _____

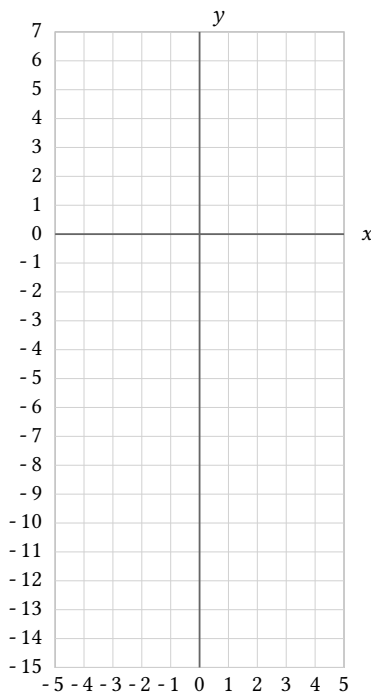
Algebra 1

Graphing Slope-Intercept 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.

A student plots $(-4, 0)$ as the first anchor for $y = 3x - 4$. Correct the construction.

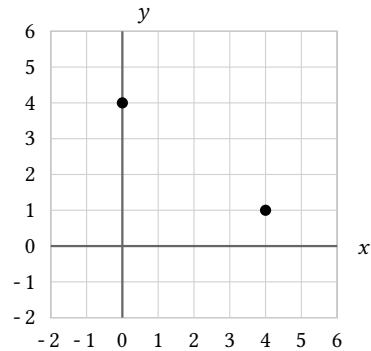


Graphing Slope-Intercept Form

Full Worked Solutions - excerpt

Worked example

Problem. Graph $y = -(\frac{3}{4})x + 4$ by the intercept-and-step method. Specify the starting point and one correctly directed second point.



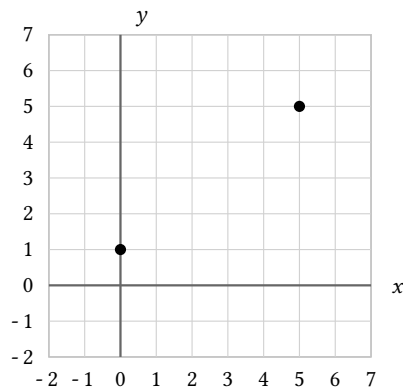
Answer. Plot $(0, 4)$ and $(4, 1)$, then extend the line for $y = -(\frac{3}{4})x + 4$.

Explanation and check.

Plot $(0, 4)$. Using run 4 and rise -3 respects the negative slope and reaches $(4, 1)$.

Worked example

Problem. Use slope-intercept construction for $y = (\frac{4}{5})x + 1$. Which two exact points can anchor the graph?



Answer. Plot $(0, 1)$ and $(5, 5)$, then extend the line for $y = (\frac{4}{5})x + 1$.

Explanation and check.

The constant gives $(0, 1)$; applying rise 4 over run 5 gives $(5, 5)$. Draw the full line through them.

Algebra 1
Transformations of Linear Functions

Transformations of Linear Functions | A1-U05-P18

96 problems · Four activity formats

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Topic focus
Across 96 tasks this topic asks for an exact transformed rule, coordinate map, domain, or justified comparison.
8 PDFs and a README; 55 buyer pages.

Algebra 1

Transformations of Linear Functions

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.

Starting from $f(x) = \frac{7}{6}x - \frac{5}{2}$, shift every output by $\frac{5}{2}$. Write g , and compare its slope and y -intercept with f .

The original line contains $(-\frac{1}{3}, \frac{5}{2})$, $(\frac{8}{3}, -\frac{7}{2})$. Translate coordinates by the map x to $x + \frac{4}{3}$ and y to $y - \frac{5}{6}$. List every image point and verify that the same displacement was used throughout.

x	y
$-\frac{1}{3}$	$\frac{5}{2}$
$\frac{8}{3}$	$-\frac{7}{2}$
$\frac{8}{3}$	$-\frac{7}{2}$

Bank label: _____

Bank label: _____

Starting with $f(x) = 9x - 2$, shift input coordinates right 3, scale all resulting outputs by 0, and finally shift outputs by -5 . Compose all three stages in order.

For $f(x) = -5x + 8$, analyze the proposed change 'horizontal right 4' without plotting every point. State what happens to parallelism and cite the controlling parameter invariant.

Bank label: _____

Bank label: _____

Algebra 1

Transformations of Linear Functions

Name: _____ Date: _____ Class: _____

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.

Beginning with $f(x) = -8x + 6$, reflect/scale every output by -1 and afterward translate outputs by 0. Expand the whole intermediate function before applying the final shift. 	Choose an efficient method, explain why it fits the given representation, and then complete the task exactly. Points $(-6, 4), (9, -6)$ lie on the original line. Apply the axis-scale map x to $-\frac{2}{3}x$, y to y, then list the exact images and describe any reflection or collapse. <table border="1" data-bbox="824 638 1468 735"> <thead> <tr> <th>x</th> <th>y</th> </tr> </thead> <tbody> <tr> <td>-6</td> <td>4</td> </tr> <tr> <td>9</td> <td>-6</td> </tr> </tbody> </table> 	x	y	-6	4	9	-6
x	y						
-6	4						
9	-6						
Choose an efficient method, explain why it fits the given representation, and then complete the task exactly. Apply the input operation $g(x) = f(-x)$ to $f(x) = -\frac{13}{9}x + \frac{17}{5}$. Expand g and state how an original x-coordinate is mapped. 	ALPHA: The rules $f(x) = -4x + 7$ and $g(x) = -4x + 12$ are accompanied by this correspondence evidence: point $(2, -1)$ maps to $(2, 4)$. Does the added evidence resolve the otherwise nonunique shift description? 						
Assume the named family 'hshift' only. Can $f(x) = -4x - 6$ be transformed into $g(x) = -4x + 14$? Recover the parameter if possible, or identify the incompatible feature. 	Assume the named family 'xscale' only. Can $f(x) = 5$ be transformed into $g(x) = 5$? Recover the parameter if possible, or identify the incompatible feature. 						

Algebra 1

Transformations of Linear Functions

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. Map the collinear points $(-\frac{9}{2}, \frac{7}{3})$, $(\frac{3}{2}, -\frac{5}{3})$ using x to $-\frac{2}{3}x + \frac{11}{4}$ and y to $\frac{5}{2}y$. Compute every exact image and use the common affine coordinate rule to verify the transformed line.

x	y
$-\frac{9}{2}$	$\frac{7}{3}$
$\frac{3}{2}$	$-\frac{5}{3}$

Complete the task, then compare the direct graph approach with an equivalent check. Explain why both support the same conclusion. Assume the named family 'hshift' only. Can $f(x) = \frac{7}{5}x + \frac{13}{6}$ be transformed into $g(x) = \frac{7}{5}x - \frac{61}{30}$? Recover the parameter if possible, or identify the incompatible feature.

Transformations of Linear Functions

Full Worked Solutions - excerpt

Worked example

Problem. Starting from $f(x) = \frac{7}{6}x - \frac{5}{2}$, shift every output by $\frac{5}{2}$. Write g , and compare its slope and y -intercept with f .

Answer. $g(x) = \frac{7}{6}x$. The slope remains $\frac{7}{6}$ and the y -intercept changes from $-\frac{5}{2}$ to 0.

Explanation and check.

An output shift adds $\frac{5}{2}$ only to the intercept; it does not change the rate of change.

Worked example

Problem. The original line contains $(-\frac{1}{3}, \frac{5}{2}), (\frac{8}{3}, -\frac{7}{2})$. Translate coordinates by the map x to $x + \frac{4}{3}$ and y to $y - \frac{5}{6}$. List every image point and verify that the same displacement was used throughout.

x	y
$-\frac{1}{3}$	$\frac{5}{2}$
$\frac{8}{3}$	$-\frac{7}{2}$

Answer. Mapped points: $(1, \frac{5}{3}), (4, -\frac{13}{3})$. The same coordinate rule is applied to each point.

Explanation and check.

Add the specified coordinate displacements to each point; the image list is $(1, \frac{5}{3}), (4, -\frac{13}{3})$.