

Algebra 1
Slope and Linear Graphs

6-topic bundle | 576 problems | Four activity formats

-
- 01 **Average Rate of Change in Context**
View individual product and its full preview
 - 02 **Slope from Two Points**
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 - 05 **Interpreting Slope-Intercept Form**
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 - 06 **Graphing Slope-Intercept Form**
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.

48 PDFs and 6 READMEs; 445 buyer PDF pages across the 6 products.

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

Algebra 1
Average Rate of Change in Context

Average Rate of Change in Context | A1-U05-P01
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 a rate, comparison, interpretation, or justified conclusion with units.
8 PDFs and a README; 47 buyer pages.

Algebra 1

Average Rate of Change in Context

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.

A print shop quotes a variable cost rate of 4 cents per page. What changes, and by how much, when the page count rises by one? _____ Bank label: _____	Pump A fills at 3 liters per minute; pump B fills at 150 liters per hour. Which pump has the greater fill rate? _____ Bank label: _____
A connected graph passes through (0, 1), (2, 7), and (5, 16) with straight segments. Is the output rate constant from $x = 0$ to $x = 5$? _____ Bank label: _____	Battery charge is 93% at hour 2 and 69% at hour 8. Find its average rate in percentage points per hour. _____ Bank label: _____
One graph segment runs from (2, 9) to (8, 9); another runs from (−3, 1) to (1, 3). Compare average rates. _____ Bank label: _____	A concentration changes steadily at $-\frac{7}{4}(\frac{mg}{L})$ per hour for 12 hours. Find ΔC. _____ Bank label: _____
The number of people inside a hall is changing at +25 people per minute. Interpret the plus sign and the rate unit. _____ Bank label: _____	Printer R produces 5 pages per minute. Printer S produces 280 pages per hour. Which output rate is greater? _____ Bank label: _____

Algebra 1

Average Rate of
Change in Context

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.

A reservoir's water depth changes at -3 centimeters per day. What does this signed rate say about the depth? 	Temperature changes constantly at -3 °C per hour for 6 hours. What is the total temperature change?
A trail profile has a rate of change of $\frac{3}{4}$ meter of elevation per horizontal meter. Explain this rate without using the word slope. 	A cart moves at a constant 8 miles per hour for $\frac{3}{2}$ hours. How much does its traveled distance change?
Snow depth is increasing at 2 inches per hour. Translate the rate into an input-output statement. 	A robot's signed position changes at $12\frac{m}{s}$ for $\frac{5}{4}$ seconds. Compute Δx.

Algebra 1

Average Rate of Change in Context

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 says, 'Reading 12 pages in 3 minutes means the rate is 12 pages.' Diagnose and correct the statement.

A calculation uses output values 2 and 8 at input values 1 and 5, then reports $\frac{2}{3}$ input units per output unit. Find the error.

A hiker is 2 km from camp at both noon and 2p.m. A student concludes the hiker's distance never changed. Audit the conclusion.

A value rises from 14 to 38 between hour 3 and hour 9. A student computes $\frac{38-14}{9}$. Diagnose the denominator.

Average Rate of Change in Context

Full Worked Solutions - excerpt

Worked example

Problem. A print shop quotes a variable cost rate of 4 cents per page. What changes, and by how much, when the page count rises by one?

Answer. The cost increases by 4 cents when the order gains one page.

Explanation and check.

The output is cost and the input is pages, so one page adds four cents.

Worked example

Problem. Pump A fills at 3 liters per minute; pump B fills at 150 liters per hour. Which pump has the greater fill rate?

Answer. Pump A; $3L/\text{min} = 180\frac{L}{h}$, which is greater than $150\frac{L}{h}$.

Explanation and check.

Convert the denominator unit: 3 liters each minute corresponds to

$$3 \times 60 = 180$$

liters each hour.

Algebra 1
Slope from Two Points

Slope from Two Points | A1-U05-P02
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, coordinate, construction, comparison, or justified conclusion.
8 PDFs and a README; 46 buyer pages.

Algebra 1

Slope from
Two Points

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.

Use the two coordinates $(-4, -3)$ and $(2, 3)$ to calculate m. Bank label: _____	Evaluate the difference ratio for $(0, -2)$ and $(6, 1)$. Bank label: _____
A report labels the slope through $(-4, 6)$, $(9, 6)$ undefined. Diagnose the confusion. Bank label: _____	Using the points in the listed order, find the slope from $(5, 2)$ to $(1, 10)$. Bank label: _____
Show with exact differences that reversing $(4, -1)$, $(-2, 8)$ does not change the slope. Bank label: _____	Compute the slope joining $(7, -3)$ to $(9, 3)$. Bank label: _____
A student uses $\frac{2-11}{15-3}$, then swaps the points. What ratio must the student use to keep the slope unchanged? Bank label: _____	Find the slope of the distinct points $(-6, 8)$, $(9, 8)$. Bank label: _____

Algebra 1

Slope from
Two Points

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: $x = -19$. A point $(x, 2)$ has slope $\frac{5}{8}$ with $(1, -3)$. Determine x. Your response: _____	Incoming: $x = 9$. Identify all equal slope outcomes among pairs A, B, and C, where A and B have repeated x-coordinates. $A: (-2, 1), (-2, 9)$; $B: (6, -5), (6, 4)$; $C: (0, 0), (1, 8)$ Your response: _____
Incoming: One pair is $(0, -5)$ and $(2, 0)$. Find x in $(x, 11)$ when the slope to $(-1, -1)$ is $-\frac{2}{3}$. Your response: _____	Incoming: For $(-4, -7)$ and $(5, -5)$, the slope is $\frac{2}{9}$. Compute the slope from $(-9, 3)$ to $(-5, 14)$. Your response: _____
Incoming: $y = 8$. Which signed slope is greater: A through $(0, 0), (5, -4)$ or B through $(2, 7), (9, 1)$? Your response: _____	Incoming: $x = 2$. If $(5, -1)$ and $(9, y)$ have slope $-\frac{3}{4}$, find the missing output coordinate. Your response: _____

Algebra 1

**Slope from
Two Points**

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.

For points $(1, 2)$ and $(5, 10)$, a student writes $\frac{10-2}{1-5} = -2$. Diagnose and repair the calculation.

A solution for $(-2, 1), (4, 10)$ computes run over rise and reports $\frac{2}{3}$. Correct it.

Pairs A and B start at $(0, 0)$ and end at $(4, 4)$ and $(4, -4)$. Compare their signed slopes and magnitudes.

A student calls the slope through $(3, -5), (3, 8)$ zero because the x -values match. What is the correct conclusion?

Slope from Two Points

Full Worked Solutions - excerpt

Worked example

Problem. Use the two coordinates $(-4, -3)$ and $(2, 3)$ to calculate m .

Answer. For $(-4, -3)$ and $(2, 3)$, the slope is 1.

Explanation and check.

Rise and run are both 6, hence $m = \frac{6}{6} = 1$.

Worked example

Problem. Evaluate the difference ratio for $(0, -2)$ and $(6, 1)$.

Answer. For $(0, -2)$ and $(6, 1)$, the slope is $\frac{1}{2}$.

Explanation and check.

The ratio of changes is $\frac{1 - (-2)}{6 - 0} = \frac{3}{6} = \frac{1}{2}$.

Algebra 1
Slope from Tables and Graphs

Slope from Tables and Graphs | A1-U05-P03

96 problems · Four activity formats

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Topic focus
Across 96 tasks this topic asks for an exact slope, missing datum, comparison, or justified linearity conclusion.
8 PDFs and a README; 87 buyer pages.

Algebra 1

Slope from Tables and Graphs

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 graphs show the same square angle but use different horizontal units. Graph A: 4 squares right, 2 squares up; each horizontal square is 1x-units and each vertical square is 1y-units. Graph B: 4 squares right, 2 squares up; each horizontal square is 2x-units and each vertical square is 1y-units. Compare their signed coordinate slopes.

An interior output must share the common rate. The table $x = -3, y = 2; x = 1, y = ?; x = 5, y = 10$ is declared linear. Determine the missing entry, or explain why no valid unique entry follows.

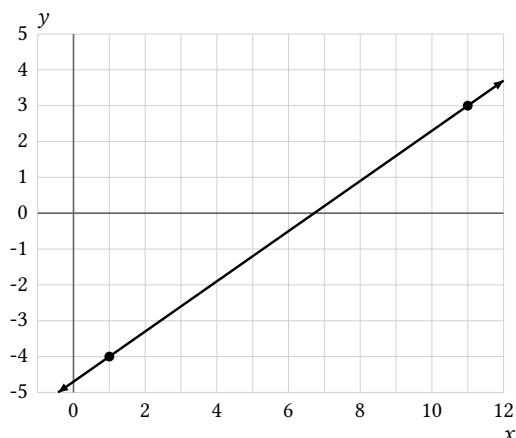
The table is declared linear.

Input x	Output y
-3	2
1	_____
5	10

Bank label: _____

Bank label: _____

An exact line graph marks the points $x = 1, y = -4; x = 11, y = 3$. Determine its slope.



An input cell must be recovered from its output. The table $x = 2, y = 0; x = ?, y = 8; x = 8, y = 12$ is declared linear. Determine the missing entry, or explain why no valid unique entry follows.

The table is declared linear.

Input x	Output y
2	0
_____	8
8	12

Bank label: _____

Bank label: _____

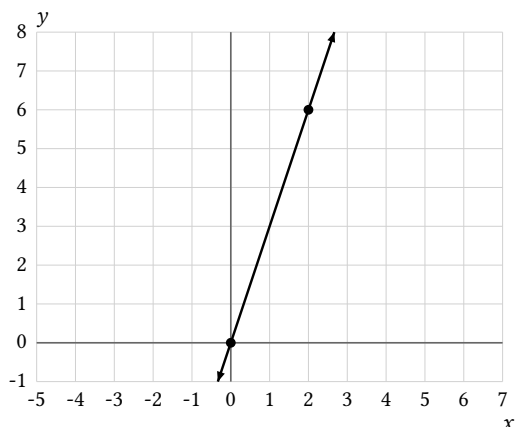
Algebra 1

Slope from Tables and Graphs

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.

An exact line graph marks the points $x = 0, y = 0$; $x = 2, y = 6$. Determine its slope.

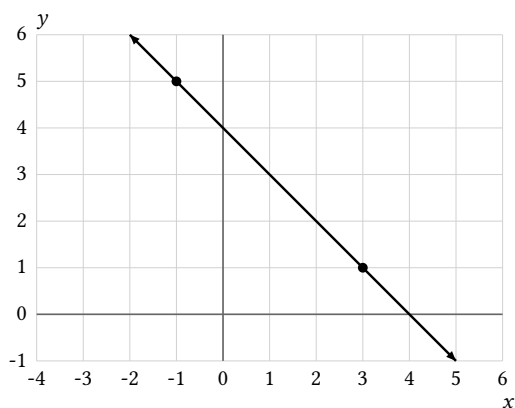


A middle output cell is blank. The table $x = 0, y = 2$; $x = 2, y = ?$; $x = 4, y = 10$ is declared linear. Determine the missing entry, or explain why no valid unique entry follows.

The table is declared linear.

Input x	Output y
0	2
2	_____
4	10

On a coordinate graph, the line passes through $x = -1, y = 5$; $x = 3, y = 1$. Read the rise and run from left to right and find m .



Does the table $x = 0, y = 1$; $x = 1, y = 3$; $x = 2, y = 5$; $x = 3, y = 7$ have a constant slope? Support the decision with interval rates.

Input x	Output y
0	1
1	3
2	5
3	7

Algebra 1

Slope from Tables and Graphs

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: The missing value in $x = -\frac{5}{2}, y = -1$; $x = ?, y = 2$; $x = \frac{7}{2}, y = 5$ is $x = \frac{1}{2}$.

The output pattern uses noninteger values. The table $x = 0, y = \frac{2}{3}$; $x = 3, y = ?$; $x = 9, y = \frac{20}{3}$ is declared linear. Determine the missing entry, or explain why no valid unique entry follows.

The table is declared linear.

Input x	Output y
0	$\frac{2}{3}$
3	_____
9	$\frac{20}{3}$

Your response: _____

Incoming: On $x = 0$ to $x = 6$, the requested slope is 1, but one global slope is not justified; adjacent average rates are 3, 0, -3.

A fractional input must be reconstructed exactly. The table $x = -\frac{5}{2}, y = -1$; $x = ?, y = 2$; $x = \frac{7}{2}, y = 5$ is declared linear.

Determine the missing entry, or explain why no valid unique entry follows.

The table is declared linear.

Input x	Output y
$-\frac{5}{2}$	-1
_____	2
$\frac{7}{2}$	5

Your response: _____

Incoming: The missing value in $x = 0, y = \frac{2}{3}$; $x = 3, y = ?$; $x = 9, y = \frac{20}{3}$ is $y = \frac{8}{3}$.

A visually flat segment competes with a steep scaled segment. Graph A: 8 squares right, 2 squares up; each horizontal square is $3x$ -units and each vertical square is $1y$ -units. Graph B: 2 squares right, 8 squares up; each horizontal square is $1x$ -units and each vertical square is $\frac{1}{4}y$ -units. Compare their signed coordinate slopes.

Your response: _____

Incoming: The slope is $-\frac{3}{5}$; the coordinate rise is 6 and the coordinate run is -10.

This table is declared linear: $x = 2, y = -8$; $x = 8, y = -4$; $x = 17, y = 2$. Determine its common slope.

The table is declared linear.

Input x	Output y
2	-8
8	-4
17	2

Your response: _____

Algebra 1

Slope from Tables and Graphs

Name: _____ Date: _____ Class: _____

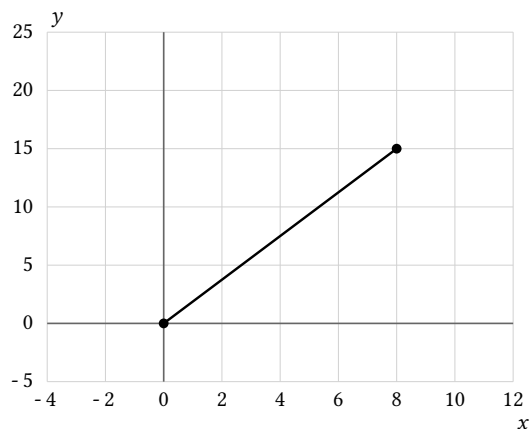
Evaluate the supplied statement or method. Say whether it is correct, repair it if it is not, and verify the result exactly. Not every prompt contains an error.

A student reads the table $x = 0, y = 2$; $x = 3, y = 8$ and calls the slope 6. Diagnose the answer.

slope is 6

Input x	Output y
0	2
3	8

A graph moves 4 squares right and 3 up; x -squares represent 2 units and y -squares 5 units. A student reports $\frac{3}{4}$. Audit the scale use.



Slope from Tables and Graphs

Full Worked Solutions - excerpt

Worked example

Problem. The graphs show the same square angle but use different horizontal units. Graph A: 4 squares right, 2 squares up; each horizontal square is $1x$ -units and each vertical square is $1y$ -units. Graph B: 4 squares right, 2 squares up; each horizontal square is $2x$ -units and each vertical square is $1y$ -units. Compare their signed coordinate slopes.

Answer. Graph A has slope $\frac{1}{2}$ and graph B has slope $\frac{1}{4}$; A's signed slope is greater than B's.

Explanation and check.

The graphs show the same square angle but use different horizontal units. After applying both axis scales, compare $\frac{1}{2}$ and $\frac{1}{4}$.

Worked example

Problem. An interior output must share the common rate. The table $x = -3, y = 2$; $x = 1, y = ?$; $x = 5, y = 10$ is declared linear. Determine the missing entry, or explain why no valid unique entry follows.

The table is declared linear.

Input x	Output y
-3	2
1	_____
5	10

Answer. The missing value in $x = -3, y = 2$; $x = 1, y = ?$; $x = 5, y = 10$ is $y = 6$.

Explanation and check.

An interior output must share the common rate. Known complete rows give slope 1, and propagating that rate yields 6.

Algebra 1
Positive, Negative, Zero, and Undefined Slope

Positive, Negative, Zero, and Undefined Slope | A1-U05-P04

96 problems · Four activity formats

01	Answer Bank Challenge	24 tasks
02	Grid Rounds	24 tasks
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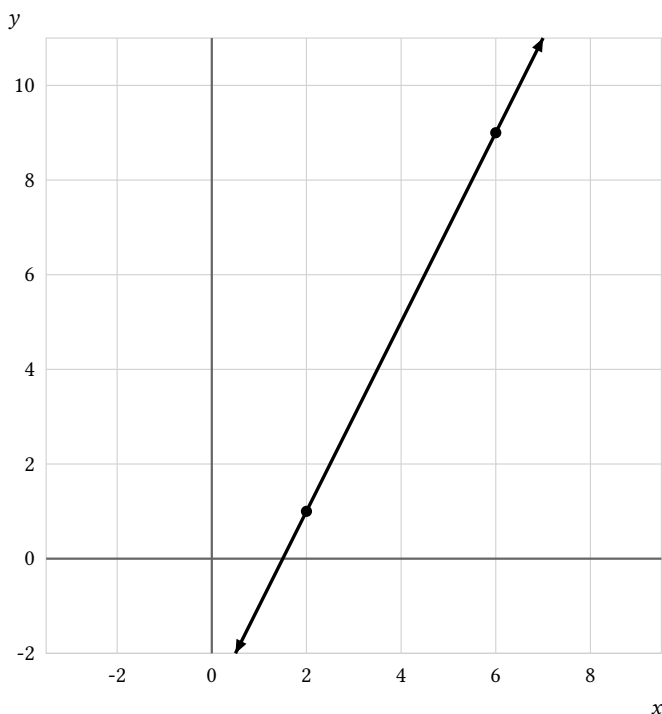
Topic focus
Across 96 tasks this topic asks for positive, negative, zero, or undefined with a decisive reason.
8 PDFs and a README; 92 buyer pages.

Algebra 1

**Positive, Negative, Zero,
and Undefined Slope**

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.

An exact line graph passes through $(2, 1)$, $(6, 9)$. As x increases, classify its slope.

Bank label: _____

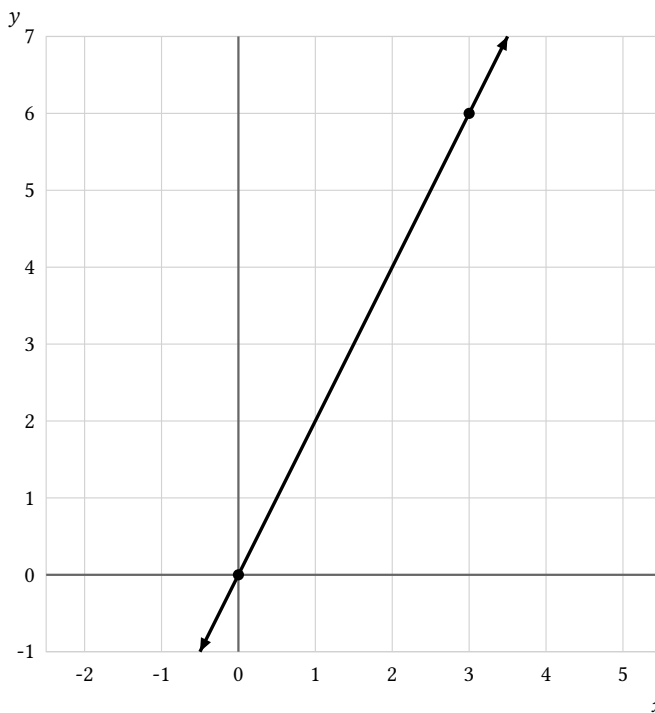
Algebra 1

**Positive, Negative, Zero,
and Undefined Slope**

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.

An exact line graph passes through $(0, 0)$, $(3, 6)$. As x increases, classify its slope.

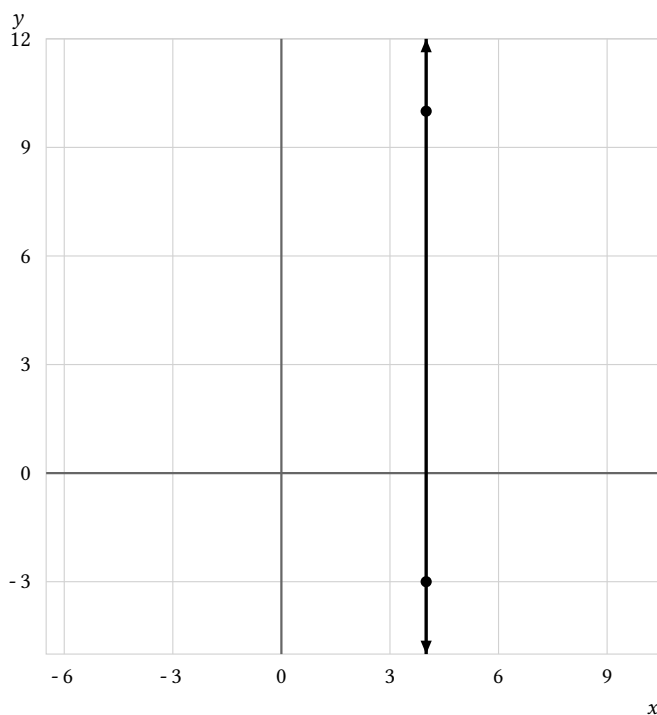


Algebra 1

**Positive, Negative, Zero,
and Undefined Slope****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 and justify a method before solving (compare coordinate changes, inspect orientation, or calculate rise over run). Then complete the task: A graph through $(4, -3)$, $(4, 10)$ is labeled zero slope because x does not change. Correct the label.

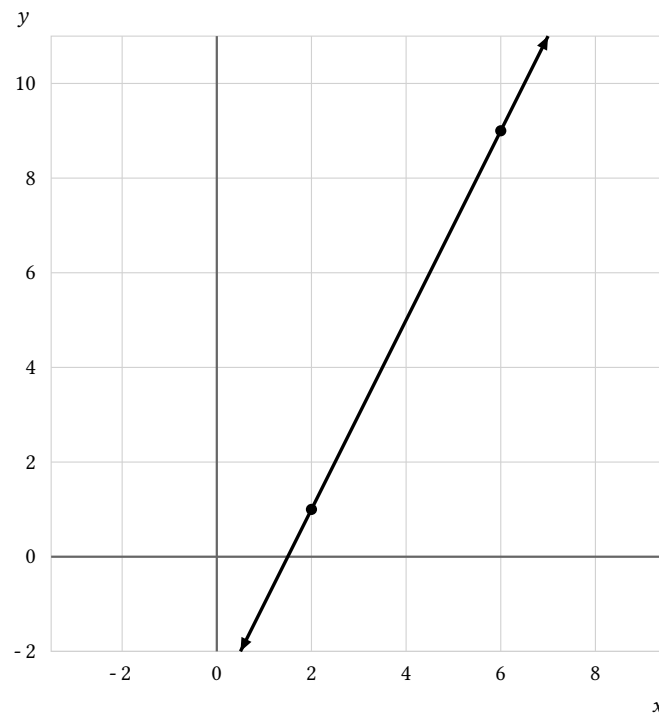


Positive, Negative, Zero, and Undefined Slope

Full Worked Solutions - excerpt

Worked example

Problem. An exact line graph passes through $(2, 1)$, $(6, 9)$. As x increases, classify its slope.



Answer. The line through $(2, 1)$, $(6, 9)$ has positive slope.

Explanation and check.

The signed changes are $\Delta x = 4$ and $\Delta y = 8$; their matching signs make the slope positive.

Algebra 1
Interpreting Slope-Intercept Form

Interpreting Slope-Intercept Form | A1-U05-P05
96 problems · Four activity formats

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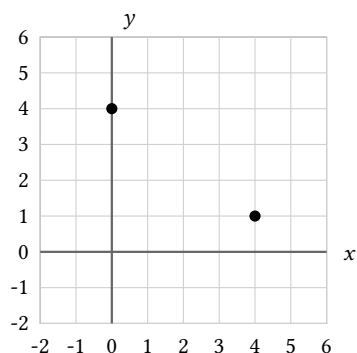
Topic focus
Across 96 tasks this topic asks for an exact graph construction or verification with stated domain.
8 PDFs and a README; 118 buyer pages.

Algebra 1

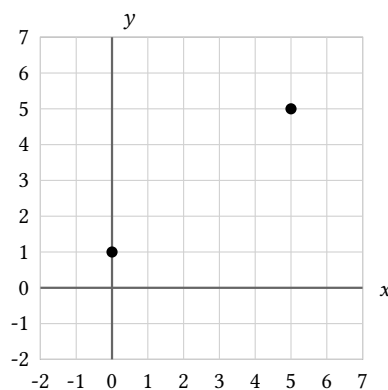
Graphing Slope-Intercept Form

Name: _____ Date: _____ Class: _____

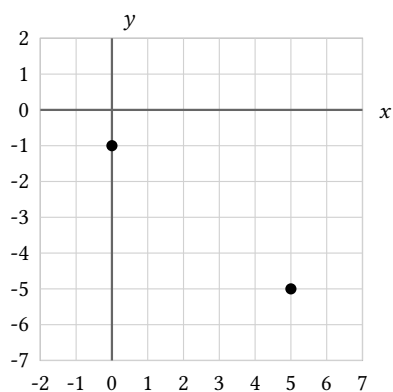
Answer each question and record the matching bank letter. Give exact values. A value without its unit is not a complete answer.

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

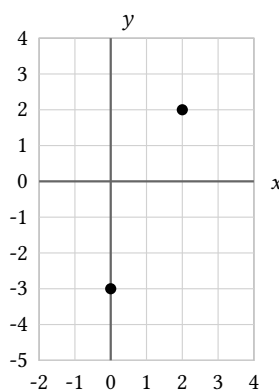
Bank label: _____

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: _____

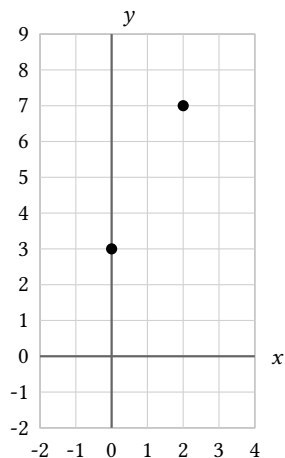
Algebra 1

Graphing Slope-Intercept Form

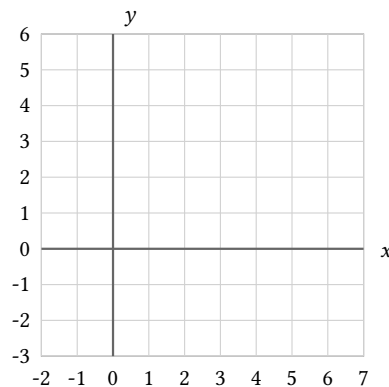
Name: _____ Date: _____ Class: _____

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.

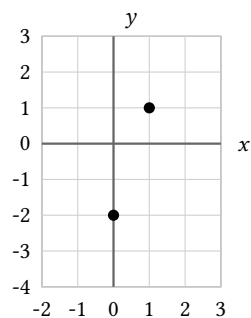
Use slope-intercept construction for $y = 2x + 3$. Which two exact points can anchor the graph?



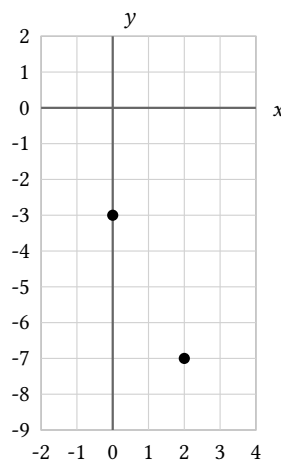
Graph $y = -x + 4$ only on the domain closed at $x = 0$ and closed at $x = 5$. Describe the exact plotted set and every endpoint style.



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

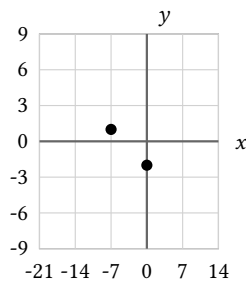
Graphing Slope-Intercept Form

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: _____

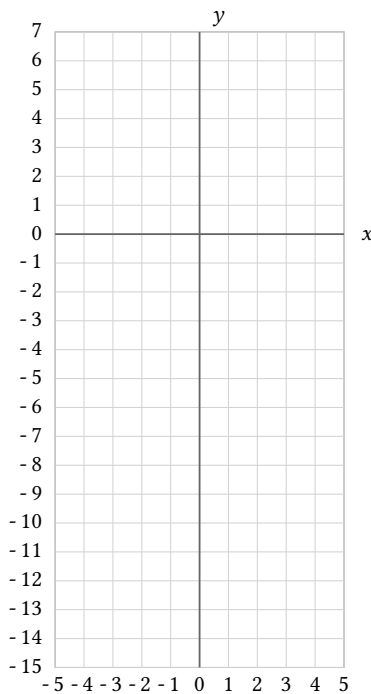
Algebra 1

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.

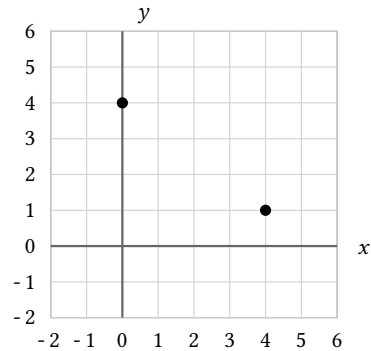


Graphing Slope-Intercept Form

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.



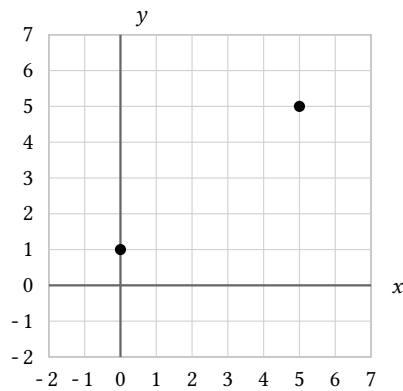
Answer. Plot $(0, 4)$ and $(4, 1)$, then extend the line for $y = -(\frac{3}{4})x + 4$.

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.