Slope Drawings on Graph Paper: Plot Lines from Slope Values

Original tasks 1, 2, 3, 4 / complete keys

Task 1

Starting point (0, 0), slope 1/2. Draw the line, mark rise and run, and label the slope.

Answer: From (0, 0), move up 1 and right 2 to (2, 1). Draw the line through (0, 0) and (2, 1). Label 1/2.

Reason: Slope 1/2 means rise 1, run 2. Moving up 1 and right 2 from the origin gives (2, 1). A straight line through these points has the required slope.

Check: Pick (4, 2) on the line. Rise from (2, 1) to (4, 2) is 1, run is 2, ratio 1/2. Correct.

Task 2

Starting point (1, 3), slope -2/3. Draw the line, mark rise and run, and label the slope.

Answer: From (1, 3), move down 2 and right 3 to (4, 1). Draw the line through (1, 3) and (4, 1). Label -2/3.

Reason: Negative slope means fall from left to right. Rise is -2, run is 3. From (1, 3), down 2 gives y = 1, right 3 gives x = 4.

Check: From (1, 3) to (4, 1), rise = -2, run = 3, slope = -2/3. The line falls as x increases.

Task 3

Starting point (2, 2), slope 3. Draw the line, mark rise and run, and label the slope.

Answer: Write slope as 3/1. From (2, 2), move up 3 and right 1 to (3, 5). Draw the line through (2, 2) and (3, 5). Label 3/1 or 3.

Reason: Integer slope 3 equals 3/1, so rise 3, run 1. Moving up 3 and right 1 from (2, 2) gives (3, 5).

Check: From (2, 2) to (3, 5), rise = 3, run = 1, slope = 3. Another point (4, 8) also fits.

Task 4

Starting point (0, 5), slope -1/4. Draw the line, mark rise and run, and label the slope.

Answer: From (0, 5), move down 1 and right 4 to (4, 4). Draw the line through (0, 5) and (4, 4). Label -1/4.

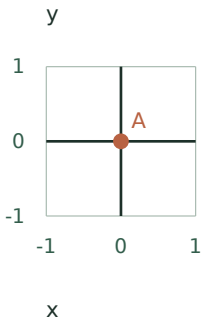
Reason: Slope -1/4 means rise -1, run 4. From (0, 5), down 1 gives y = 4, right 4 gives x = 4.

Check: From (0, 5) to (4, 4), rise = -1, run = 4, slope = -1/4. The line falls gently from left to right.

Slope Drawings on Graph Paper: Plot Lines from Slope Values

Task 1 / completed coordinate key

Starting point (0, 0), slope 1/2. Draw the line, mark rise and run, and label the slope.



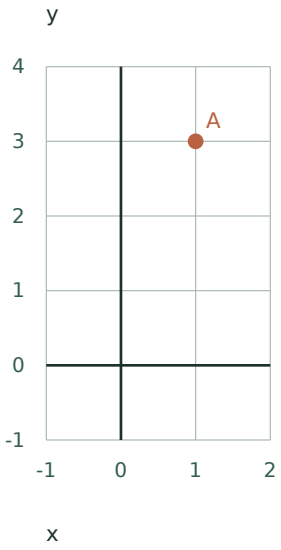
Each horizontal interval = 1; each vertical interval = 1. The axes show a display window, not a newly imposed domain.

A = (0, 0)

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Task 2 / completed coordinate key

Starting point (1, 3), slope -2/3. Draw the line, mark rise and run, and label the slope.



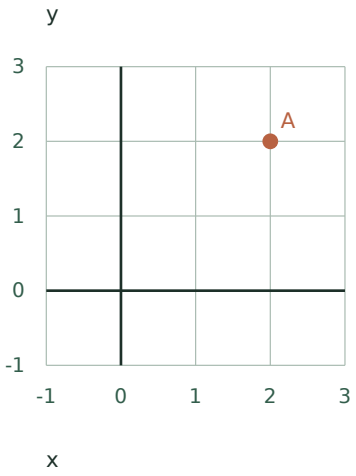
Each horizontal interval = 1; each vertical interval = 1. The axes show a display window, not a newly imposed domain.

A = (1, 3)

Slope Drawings on Graph Paper: Plot Lines from Slope Values

Task 3 / completed coordinate key

Starting point (2, 2), slope 3. Draw the line, mark rise and run, and label the slope.



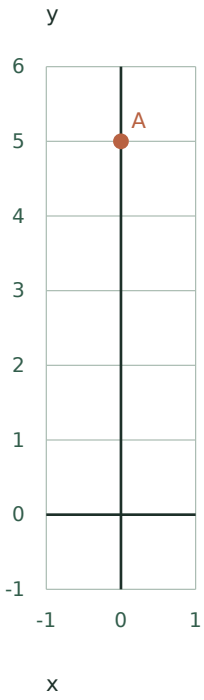
Each horizontal interval = 1; each vertical interval = 1. The axes show a display window, not a newly imposed domain.

A = (2, 2)

Slope Drawings on Graph Paper: Plot Lines from Slope Values

Task 4 / completed coordinate key

Starting point (0, 5), slope -1/4. Draw the line, mark rise and run, and label the slope.



Each horizontal interval = 1; each vertical interval = 1. The axes show a display window, not a newly imposed domain.

A = (0, 5)

Slope Drawings on Graph Paper: Plot Lines from Slope Values

Original rubric / reflection

- [ ] Starting point is plotted correctly on a grid intersection.
- [ ] Second point is found by moving the correct rise (up for positive, down for negative) and the correct run to the right.
- [ ] A straight line is drawn through both points and extends across the grid.
- [ ] The slope is labeled as rise/run, with the correct sign and simplified fraction, or an equivalent rise-run triangle is drawn and labeled.
- [ ] A check is shown by counting rise and run between two grid-intersection points on the line.

Reflection: What did you check, what did you change, and what will you try next?