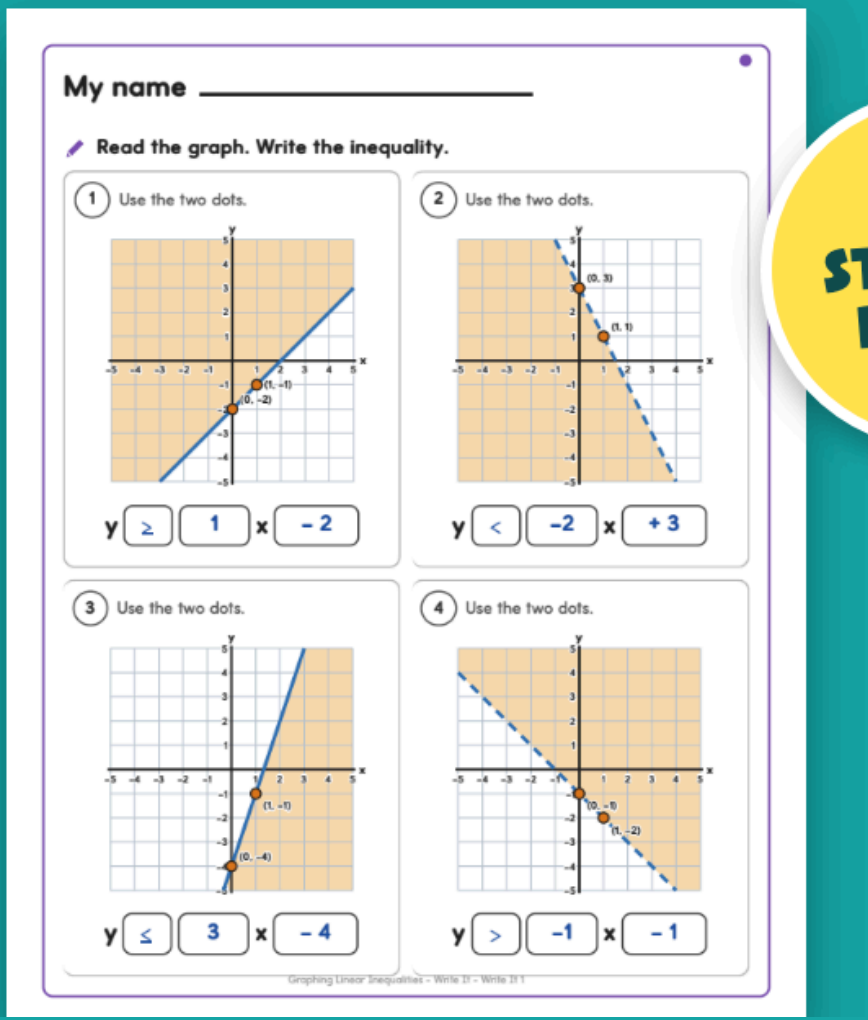
GRAPHING LINEAR INEQUALITIES WORKSHEETS

GRAPH, SHADE, CHECK
GRADES 8-9



20 STUDENT PAGES

Bright Path Sped

Terms of Use

Please read before you print your first page.

One classroom license

- This file is for one classroom: one teacher, one group of students.
- Please do not share it, post it online, or sell it.
- Extra licenses for a team or a school are available on the product page.

This is a fillable PDF

- Open it in a PDF reader (Adobe Acrobat Reader, Preview, or your browser), click into a box, type, and Save As.
- The name line and every answer box are type-in fields. The grids, the work space and the cut-and-match pages are for pencil, scissors and glue on a printed page.
- It works offline. No account, no subscription, no internet connection needed after you download it.

Print at 100 percent

Turn off fit to page and shrink to fit so the grids and answer boxes stay big enough to draw and write in. Every page prints in color or in black and white. In black and white the dashed line still looks dashed and the shaded side prints as a gray tint, so a student can still tell them apart.

Student work

A filled-in tracker carries a student's name. Keep it in the data folder, and use a first name only on any page that leaves your hands. All names and numbers in the word problems are invented.

Need help?

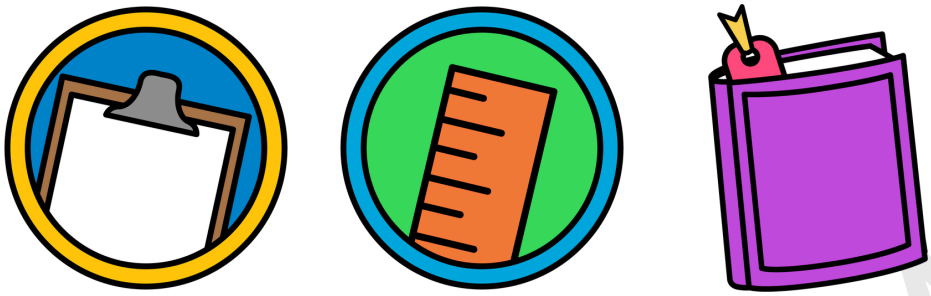
If a box will not behave or a page will not print the way you expect, use Ask a Question on the product page before leaving a review. Every question is read, and a fix to the file ships as a free update: re-download it any time from My Purchases.

© Bright Path Sped. For single-classroom use by the original purchaser.

PREVIEW

Binder Cover and Spine

Slide this into the front of a binder or a folder. The spine strip is below it; the 5 divider tabs come before each section (pages 5, 11, 16, 21, 25).



GRAPHING LINEAR INEQUALITIES

graph, shade and check

Name

Class or group

School year

PREVIEW

Graphing Linear Inequalities - Bright Path Sped

Spine strip: fold it around the spine of a one-inch binder, or tape it flat to a folder edge.

Preview · Bright Path Sped

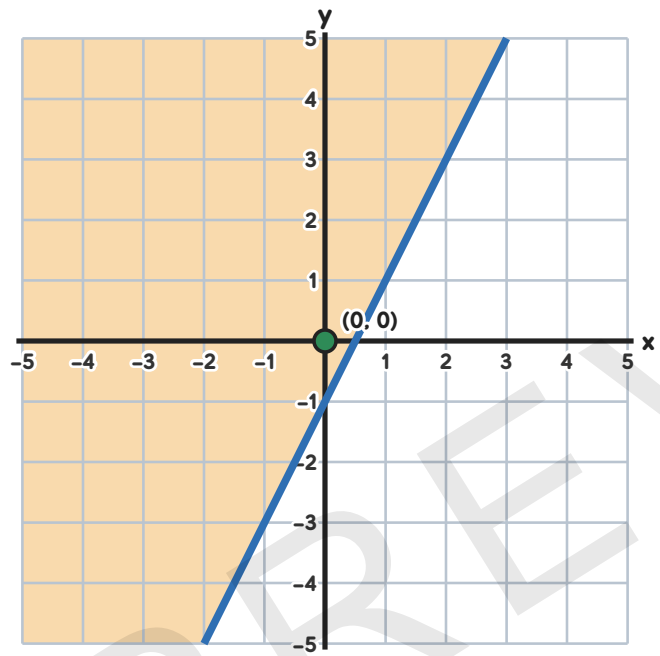
My name _____

Read how it works. Then try four.

< > Dashed line

≤ ≥ Solid line

$y \geq 2x - 1$



1. Draw the line $y = 2x - 1$.
2. Solid or dashed? $\geq$ is solid.
3. Test (0, 0): $0 \geq -1$. True!
4. Shade the side with (0, 0).

PREVIEW

Your turn

1. $y < 3x$ — solid or dashed? ____
2. $y \geq x - 4$ — solid or dashed? ____
3. $x \leq 2$ — solid or dashed? ____
4. $y \leq x + 3$ — is (0, 0) a solution? ____

My name _____

Read the chart. Use it on the word problems.

is greater than more than	$>$	dashed
is less than fewer than	$<$	dashed
at least no less than or more	$\geq$	solid
at most no more than or less	$\leq$	solid

Remember

Solid line: points on the line count.

Dashed line: points on the line do not count.

Test a point to pick the side. Then shade it.

PREVIEW

Preview · Bright Path Sped

My name _____

Is the line solid or dashed? Glue each one.

SOLID LINE

DASHED LINE

PREVIEW

Cut on the dashed lines. Glue each piece in its box.

$2x + y \leq 6$	$y < -2$	$y \geq \frac{1}{2}x - 1$	$x < -1$
$x - y > 1$	$y \leq 4$	$x \geq 3$	$y > -\frac{1}{3}x + 2$

Divider Tab 2 of 5

Slide this sheet in front of the pages in this section: 12 to 15.



GRAPH AND SHADE

Draw the line. Shade the side.

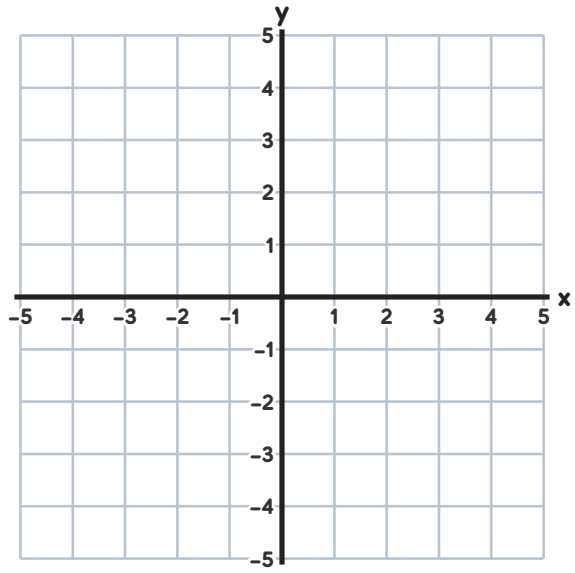
Pages 12-15

PREVIEW

My name _____

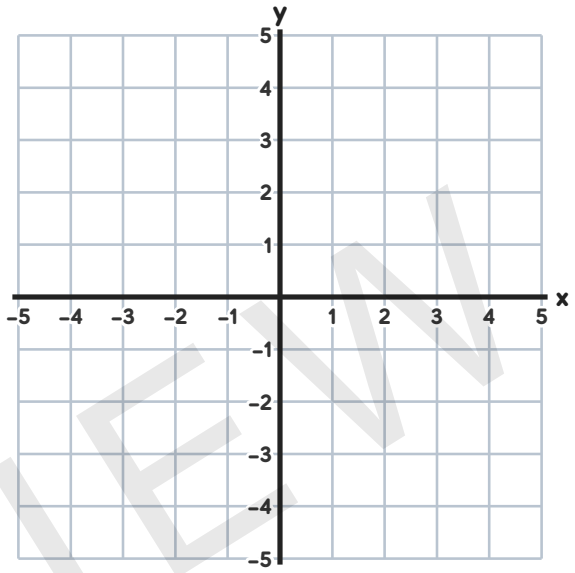
Draw the line. Shade the side. Write solid or dashed.

1 $x \geq 2$



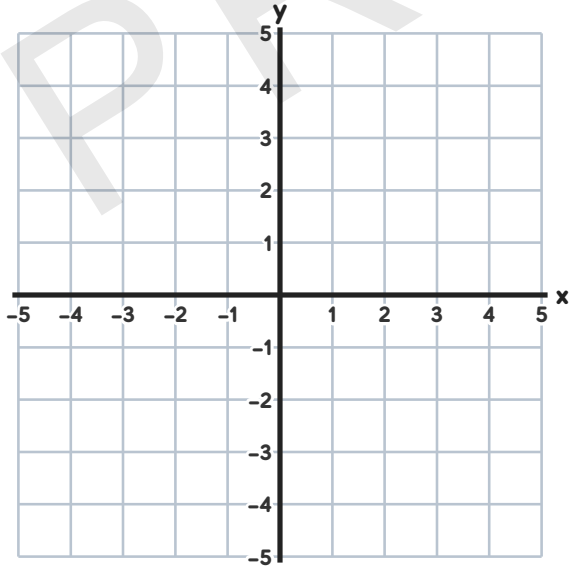
line _____ shade _____

2 $y < -3$



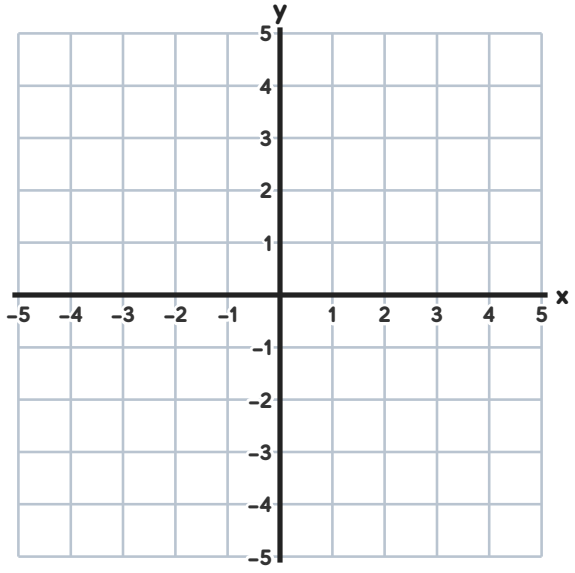
line _____ shade _____

3 $y \leq \frac{1}{2}x + 1$



line _____ shade _____

4 $y > -\frac{1}{2}x - 2$



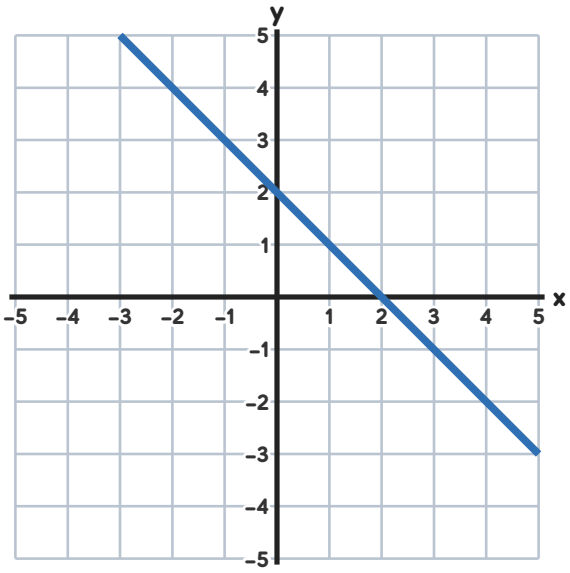
line _____ shade _____

PREVIEW

My name _____

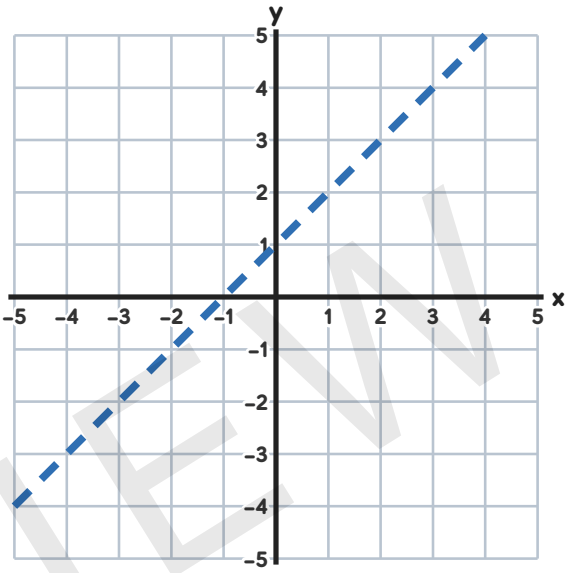
Test a point off the line. True or false? Shade.

1 $y \leq -x + 2$



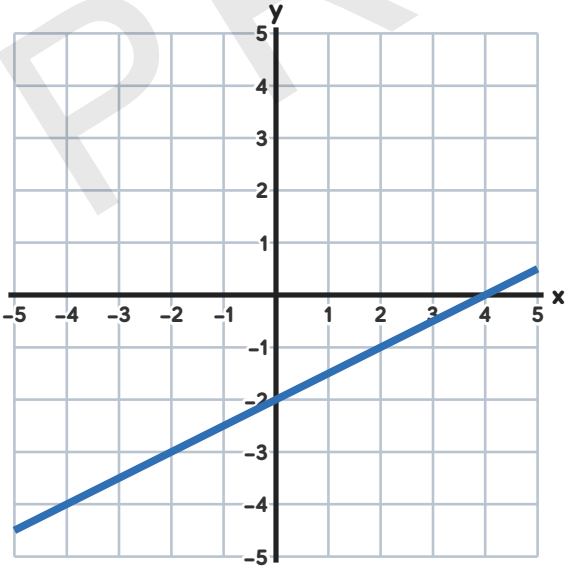
test (___ , ___) ___

2 $y > x + 1$



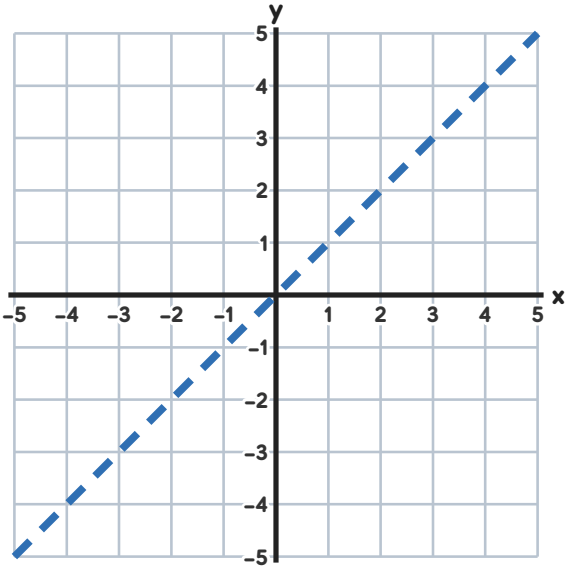
test (___ , ___) ___

3 $y \geq \frac{1}{2}x - 2$



test (___ , ___) ___

4 $y < x$



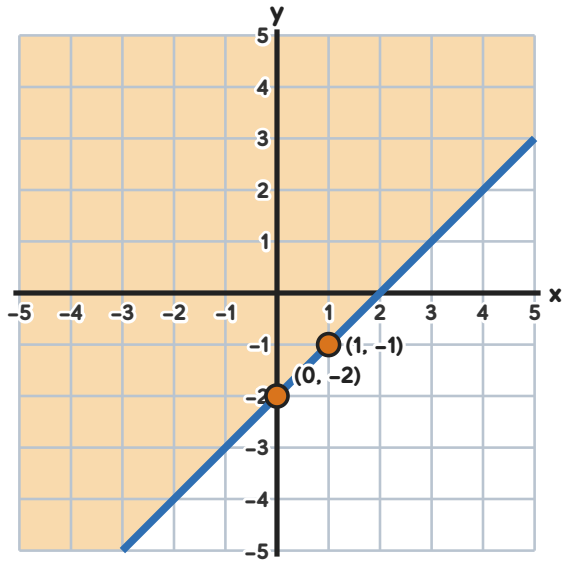
test (___ , ___) ___

PREVIEW

My name _____

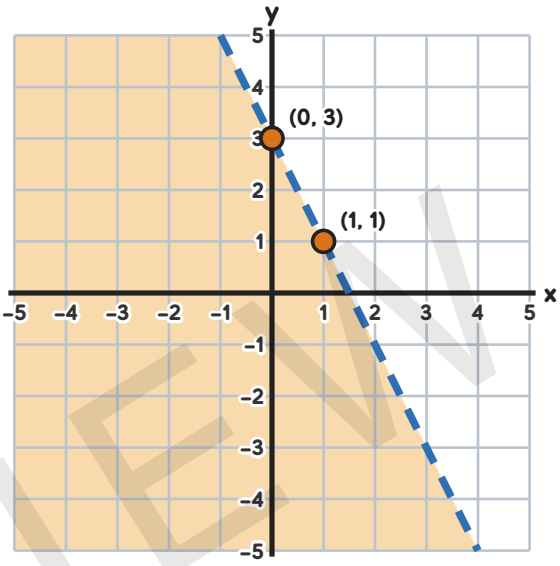
Read the graph. Write the inequality.

1 Use the two dots.



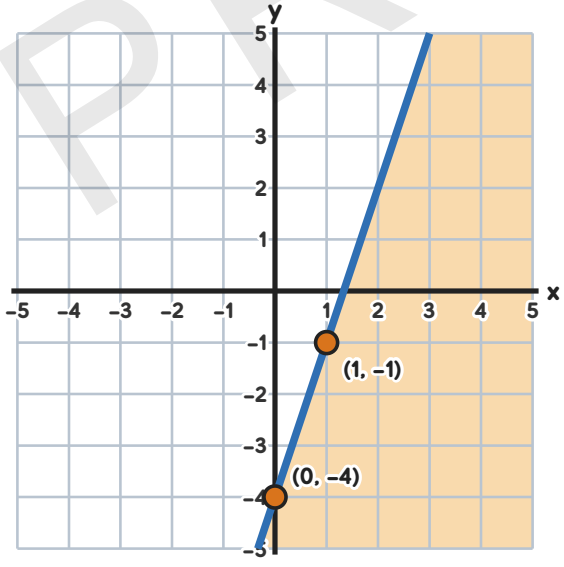
y ☐ ☐ x ☐

2 Use the two dots.



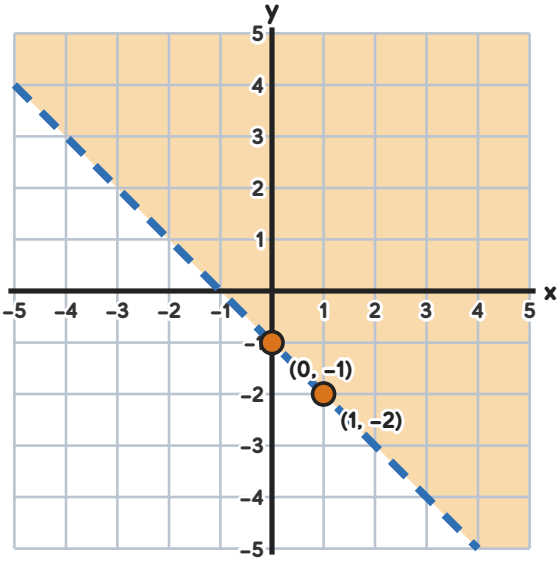
y ☐ ☐ x ☐

3 Use the two dots.



y ☐ ☐ x ☐

4 Use the two dots.



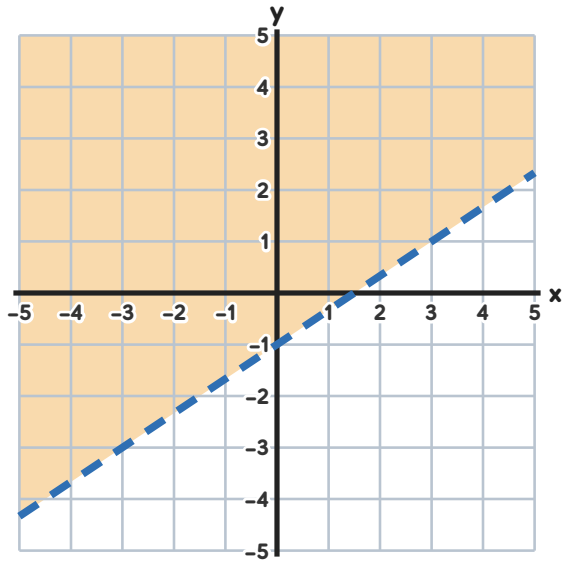
y ☐ ☐ x ☐

PREVIEW

My name _____

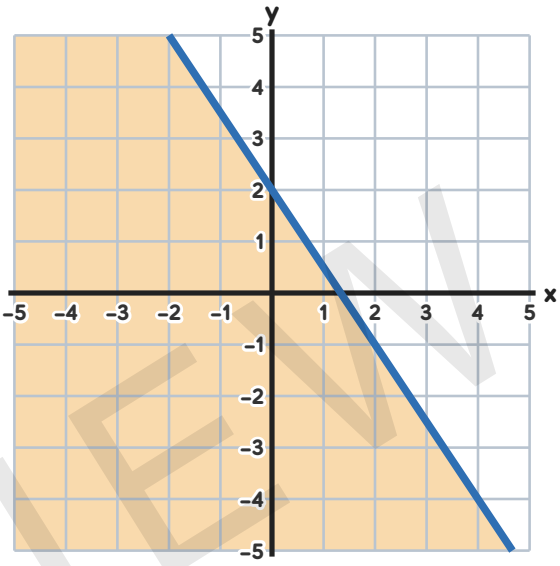
Read the graph. Write the inequality.

1 Find two points on the line.



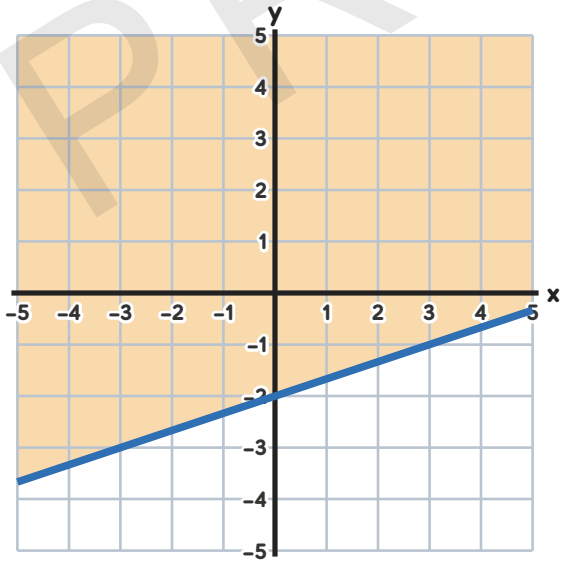
y ☐ ☐ x ☐

2 Find two points on the line.



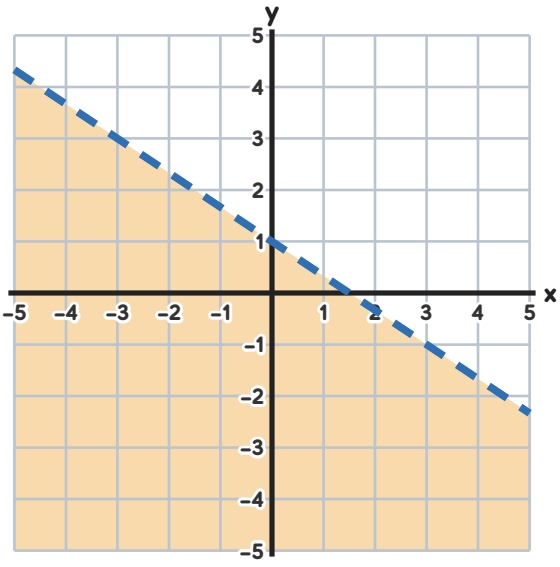
y ☐ ☐ x ☐

3 Find two points on the line.



y ☐ ☐ x ☐

4 Find two points on the line.



y ☐ ☐ x ☐

PREVIEW

My name _____

Put in x and y. Is it true? Write yes or no.

1 $y > 2x + 1$

Is (1 , 4) a solution?

Show your work

_____ yes or no

2 $y \leq x + 3$

Is (2 , 6) a solution?

Show your work

_____ yes or no

3 $y < 3x - 2$

Is (2 , 3) a solution?

Show your work

_____ yes or no

4 $y \geq x + 2$

Is (3 , 5) a solution?

Show your work

_____ yes or no

5 $y > x - 1$

Is (4 , 3) a solution?

Show your work

_____ yes or no

6 $y \leq 2x$

Is (3 , 7) a solution?

Show your work

_____ yes or no

PREVIEW

My name _____

Put in x and y. Is it true? Write yes or no.

1 $2x + y \leq 5$

Is (1 , 3) a solution?

Show your work

_____ yes or no

2 $x - 2y > 4$

Is (6 , 0) a solution?

Show your work

_____ yes or no

3 $3x + 2y < 6$

Is (2 , 1) a solution?

Show your work

_____ yes or no

4 $-x + y \geq 2$

Is (−3 , −2) a solution?

Show your work

_____ yes or no

5 $5x - y < 4$

Is (1 , 2) a solution?

Show your work

_____ yes or no

6 $x + 3y \geq -3$

Is (0 , −2) a solution?

Show your work

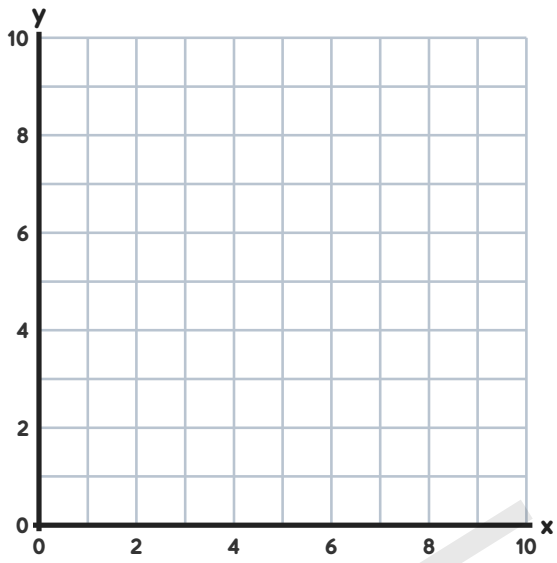
_____ yes or no

PREVIEW

My name _____

Write it. Draw the line. Shade. Test the point.

1 Ravi can carry at most 8 bags. He carries x small bags and y big bags.
x is **small bags**. y is **big bags**.



Write the inequality.

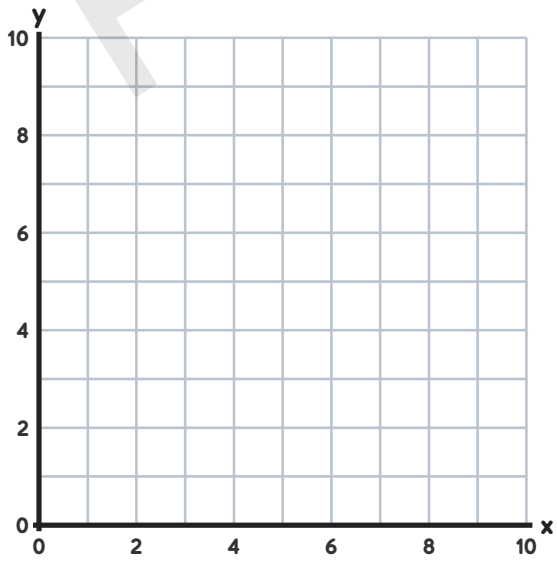
[ ] **x +** [ ] **y** [ ] [ ]

line is [ ]

Does (3 , 4) work? [ ]

Show your work

2 A team needs at least 9 players to start. The team has x girls and y boys.
x is **girls**. y is **boys**.



Write the inequality.

[ ] **x +** [ ] **y** [ ] [ ]

line is [ ]

Does (4 , 4) work? [ ]

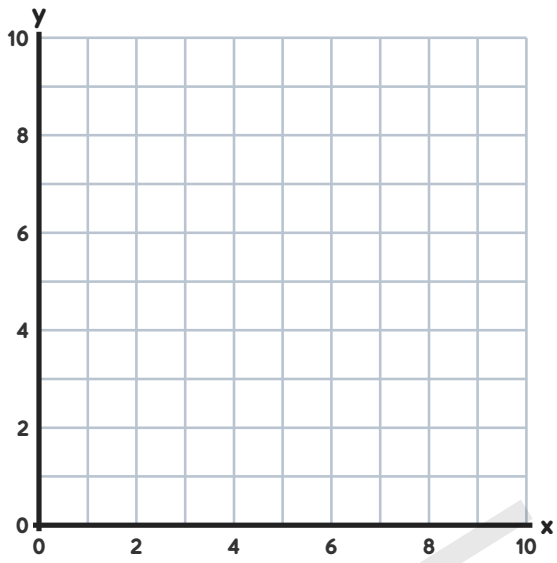
Show your work

PREVIEW

My name _____

Write it. Draw the line. Shade. Test the point.

1 Ana has less than 24 minutes to play. A short game takes 4 minutes and a long game takes 6 minutes.
x is **short games**. y is **long games**.



Write the inequality.

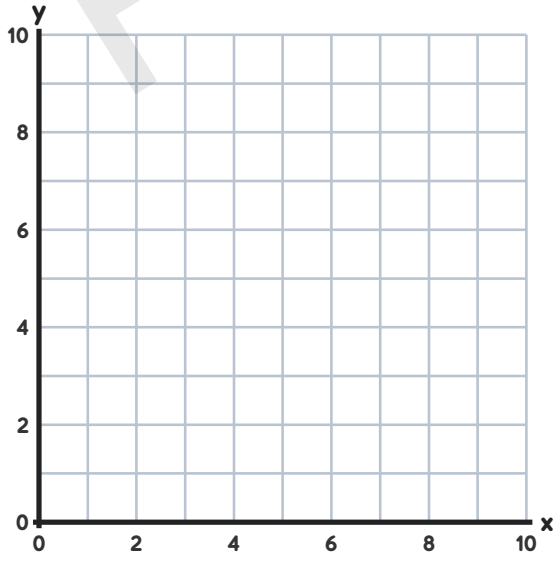
[ ] **x +** [ ] **y** [ ] [ ]

line is [ ]

Does (3 , 2) work? [ ]

Show your work

2 A truck must carry more than 30 pounds. A small box weighs 5 pounds and a big box weighs 3 pounds.
x is **small boxes**. y is **big boxes**.



Write the inequality.

[ ] **x +** [ ] **y** [ ] [ ]

line is [ ]

Does (4 , 4) work? [ ]

Show your work

PREVIEW

Answer Key 1

Each line is the answer for that item. A fraction slope is written as (1/2)x.

Page 6: How to Graph an Inequality

Example: $y \geq 2x - 1$, solid line, test (0, 0): $0 \geq -1$ is true, shade above.

1) $y < 3x$: dashed

2) $y \geq x - 4$: solid

3) $x \leq 2$: solid

4) $y \leq x + 3$, (0, 0): $0 \leq 3$, yes

Page 8: Solid or Dashed? 1

Solid line: $y \geq 2x + 1$, $y \leq -x + 4$, $y \geq x - 5$, $y \leq 2x - 4$

Dashed line: $y < x - 3$, $y > 3x - 2$, $y < -2x + 1$, $y > -x + 2$

Page 9: Solid or Dashed? 2

Solid line: $2x + y \leq 6$, $y \geq (1/2)x - 1$, $y \leq 4$, $x \geq 3$

Dashed line: $y < -2$, $x < -1$, $x - y > 1$, $y > -(1/3)x + 2$

Page 10: Above or Below?

Shade above: $2x + y \geq 3$, $y > 2x - 1$, $3x - y \leq 2$, $y \geq (1/2)x + 2$

Shade below: $y \leq -x + 3$, $x - y > 2$, $y < -3x + 1$, $-x + y < 1$

Page 12: Graph and Shade 1

1) dashed, shade above; line through (0, 2) and (1, 3)

2) solid, shade below; line through (0, −1) and (1, 1)

3) dashed, shade below; line through (0, 3) and (1, 2)

4) solid, shade above; line through (0, −2) and (1, −4)

Page 13: Graph and Shade 2

1) solid, shade right; vertical line at $x = 2$

2) dashed, shade below; horizontal line at $y = -3$

3) solid, shade below; line through (0, 1) and (2, 2)

4) dashed, shade above; line through (0, −2) and (2, −3)

PREVIEW

Answer Key 3

Each line is the answer for that item. A fraction slope is written as (1/2)x.

Page 22: Test a Point 1

1) (1, 4): $4 > 3$, yes
2) (2, 6): $6 \leq 5$, no
3) (2, 3): $3 < 4$, yes
4) (3, 5): $5 \geq 5$, yes
5) (4, 3): $3 > 3$, no
6) (3, 7): $7 \leq 6$, no

Page 23: Test a Point 2

1) (−1, 4): $4 \geq 3$, yes
2) (0, −4): $-4 < -3$, yes
3) (−3, 6): $6 \leq 5$, no
4) (6, 3): $3 > 4$, no
5) (1, −1): $-1 \geq -1$, yes
6) (3, 2): $2 < 2$, no

Page 24: Test a Point 3

1) (1, 3): $5 \leq 5$, yes
2) (6, 0): $6 > 4$, yes
3) (2, 1): $8 < 6$, no
4) (−3, −2): $1 \geq 2$, no
5) (1, 2): $3 < 4$, yes
6) (0, −2): $-6 \geq -3$, no

Page 26: Word Problems 1

1) $x + y \leq 8$; solid line from (8, 0) to (0, 8); shade toward (0, 0).
   (3, 4): $7 \leq 8$, yes
2) $x + y \geq 9$; solid line from (9, 0) to (0, 9); shade away from (0, 0).
   (4, 4): $8 \geq 9$, no

Page 27: Word Problems 2

1) $2x + 4y \leq 20$; solid line from (10, 0) to (0, 5); shade toward (0, 0).
   (3, 2): $14 \leq 20$, yes
2) $3x + 2y \geq 12$; solid line from (4, 0) to (0, 6); shade away from (0, 0).
   (2, 3): $12 \geq 12$, yes

Page 28: Word Problems 3

1) $4x + 6y < 24$; dashed line from (6, 0) to (0, 4); shade toward (0, 0).
   (3, 2): $24 < 24$, no
2) $5x + 3y > 30$; dashed line from (6, 0) to (0, 10); shade away from (0, 0).
   (4, 4): $32 > 30$, yes

PREVIEW

Tracker and Roll-Up

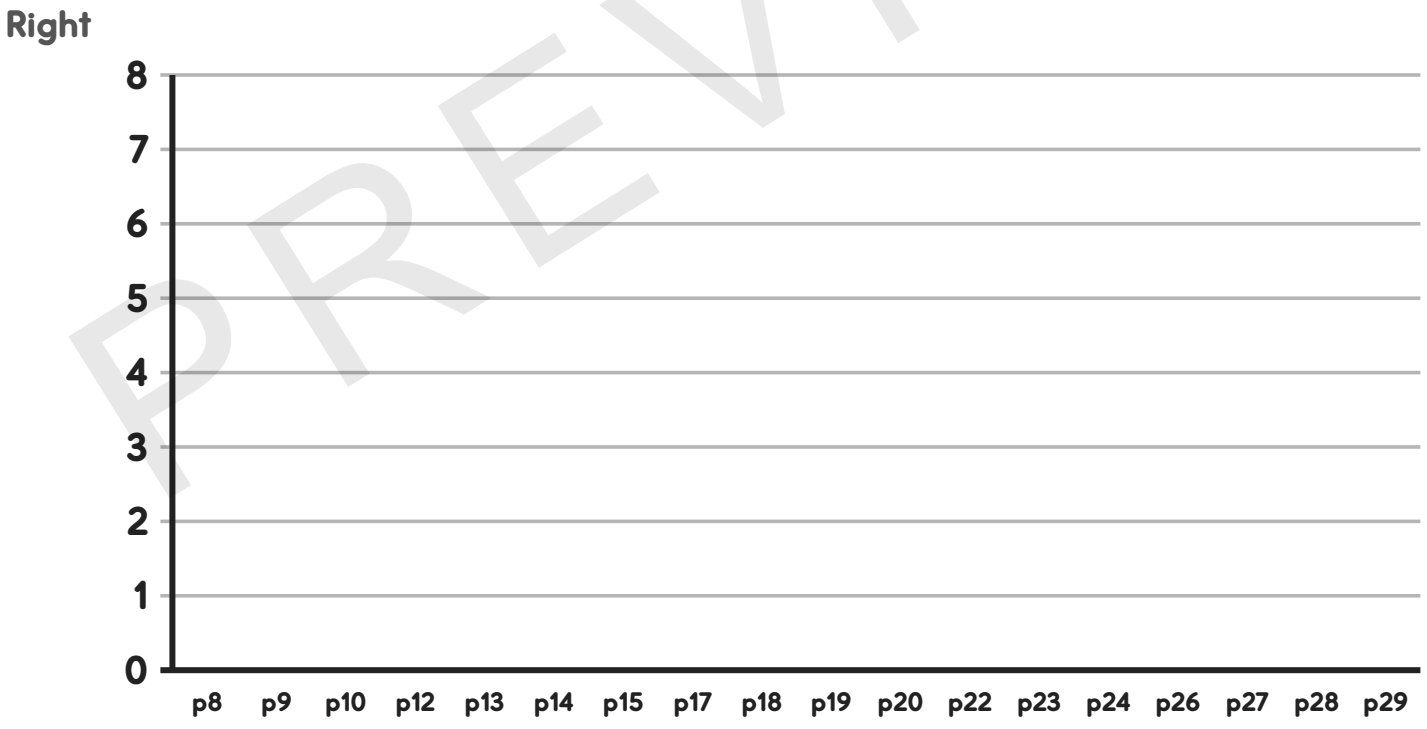
Write the date and how many were right. Then color the bar for that sheet. A blank row means not done yet, never wrong.

Student _____ Teacher _____ School year _____

Page	Sheet	Date	Right	Out of
8	Solid or Dashed? 1			8
9	Solid or Dashed? 2			8
10	Above or Below?			8
12	Graph and Shade 1			4
13	Graph and Shade 2			4
14	Graph and Shade 3			4
15	Which Side?			4
17	Write It 1			4
18	Write It 2			4

Page	Sheet	Date	Right	Out of
19	Write It 3			4
20	Cut and Match: Graphs			6
22	Test a Point 1			6
23	Test a Point 2			6
24	Test a Point 3			6
26	Word Problems 1			2
27	Word Problems 2			2
28	Word Problems 3			2
29	Cut and Match: Words			6

Roll-up: color one bar for each sheet, up to the number right



Notes for the team

PREVIEW

Inequalities at Home

Send this page home with a student, or hand it to a family at a conference.

Student _____ Week of _____

How to help at home, in three steps

- Look around for an at-least or at-most sign: a sign that says 5 items or fewer, a game that says 8 and up.
- Say it with x and y: how many of one thing, how many of another, and a total that has to be big enough or small enough.
- Pick one pair of numbers together and ask: does it work?

Try one together (invented numbers)

A family wants at least 10 fruits in a bowl. They put in x apples and y pears.

x is **apples**. y is **pears**.

☐ **x** + ☐ **y** ☐ ☐ Write the inequality.

Does (4 , 5) work? ☐

Try saying

- "Does the line have to be solid or dashed? Is it just more than, or at least?"
- "If we try the pair (0, 0), is the sentence true?"

Note from the teacher

Note from home

PREVIEW