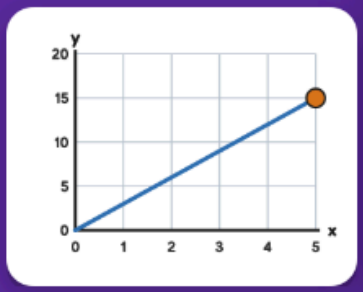
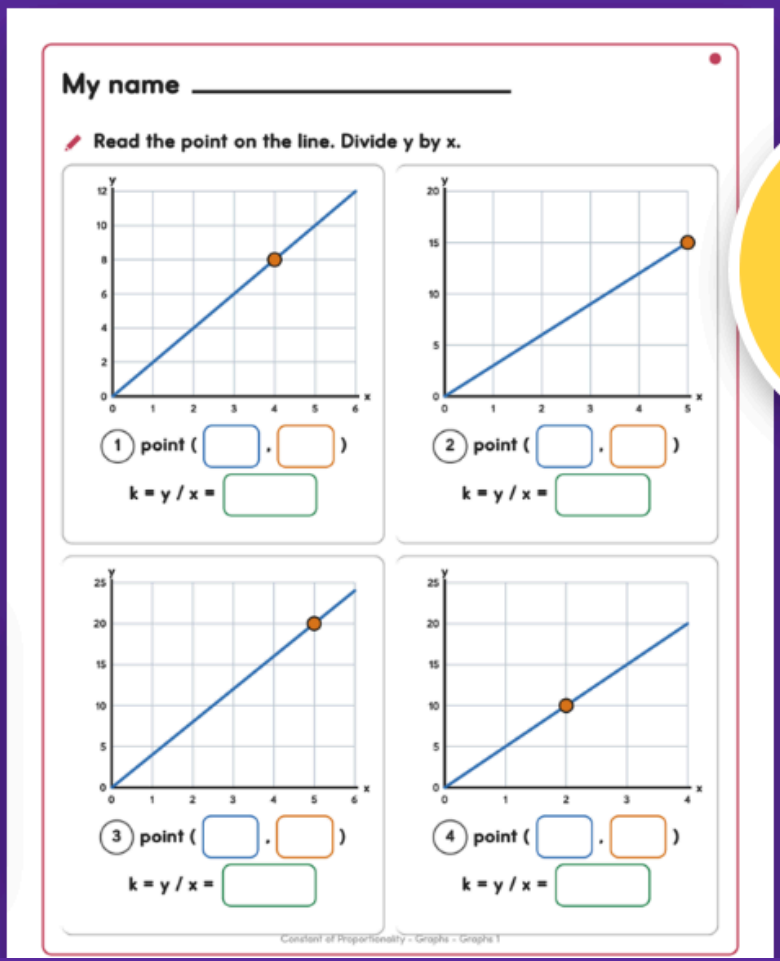
CONSTANT OF PROPORTIONALITY WORKSHEETS

TABLES, GRAPHS, EQUATIONS
GRADE 7





16 STUDENT PAGES

Bright Path Sped

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One classroom license

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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, every y / x box under a table, every point box and every answer box are type-in fields. 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 tables, grids and answer boxes stay big enough to write in. Every page prints in color or in black and white. In black and white the table rows keep their labels (x, y and y / x), 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?

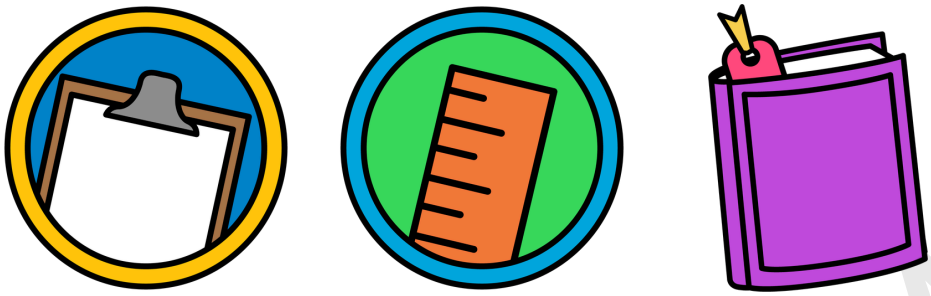
If a box will not behave or a page will not print the way you expect, use Ask a Question on the product page before leaving a review. Every question is read, and a fix to the file ships as a free update: re-download it any time from My Purchases.

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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, 15, 19, 23).



CONSTANT OF PROPORTIONALITY

tables, graphs and equations

Name

Class or group

School year

PREVIEW

Constant of Proportionality - Bright Path Sped

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

My name _____

Read how to find k. Then try three.

k = y / x

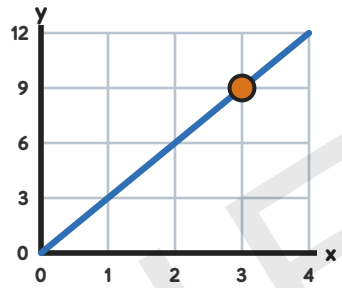
k is the constant of proportionality. It is the same for every pair.

In a table

x	1	2	3	4
y	3	6	9	12
y / x	3	3	3	3

k = 3

On a graph



point (3, 9): 9 / 3 = 3

In an equation

y = 3x

k = 3

Four steps

1. Pick a pair. Find its x and its y.
2. Divide y by x. That number is k.
3. Check another pair. Same k? Then it is proportional.
4. Write the equation: y = kx.

Your turn

1 x = 2 and y = 10 k = ____

2 x = 5 and y = 20 k = ____

3 x = 4 and y = 6 k = ____

PREVIEW

Preview · Bright Path Sped

My name _____

Divide y by x in each column. Write k.

1

x	1	2	3	4
y	2	4	6	8
y / x				

k = ☐

2

x	1	2	3	4
y	5	10	15	20
y / x				

k = ☐

3

x	2	3	4	5
y	6	9	12	15
y / x				

k = ☐

4

x	2	4	6	8
y	8	16	24	32
y / x				

k = ☐

PREVIEW

My name _____

Divide y by x in each column. Write k.

1

x	2	4	5	8
y	5	10	12.5	20
y / x				

k = ☐

2

x	4	8	12	16
y	3	6	9	12
y / x				

k = ☐

3

x	5	10	15	20
y	2	4	6	8
y / x				

k = ☐

4

x	6	9	12	15
y	4	6	8	10
y / x				

k = ☐

PREVIEW

Divider Tab 2 of 5

Slide this sheet in front of the pages in this section: 12 to 14.



GRAPHS

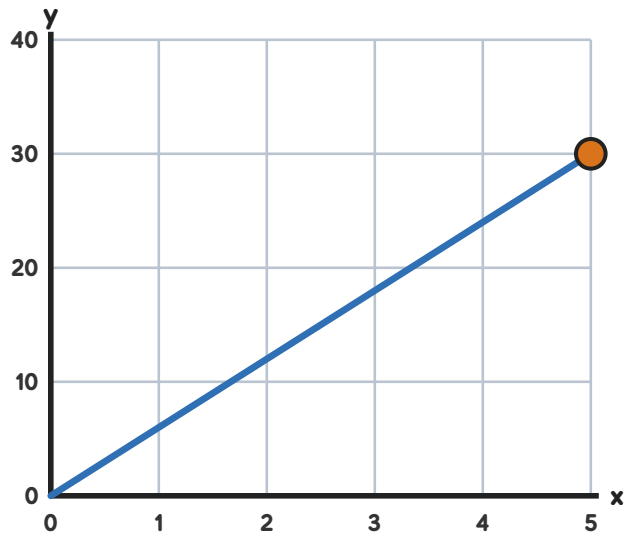
Read a point on the line. Divide y by x.

Pages 12-14

PREVIEW

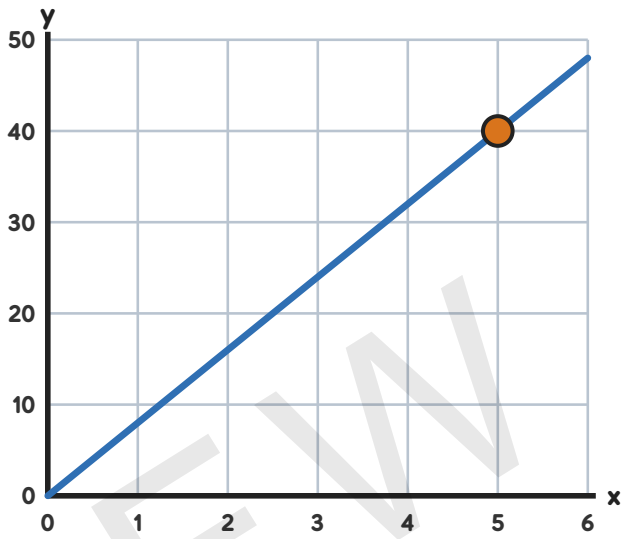
My name _____

Read the point on the line. Divide y by x.



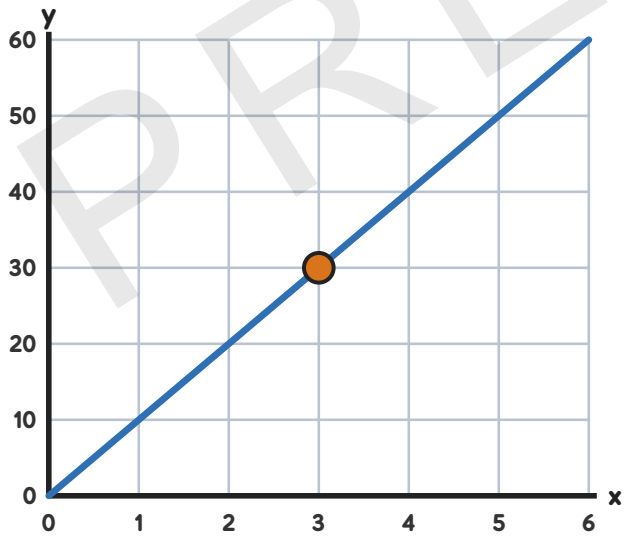
1 point (____ , ____)

k = y / x = ____



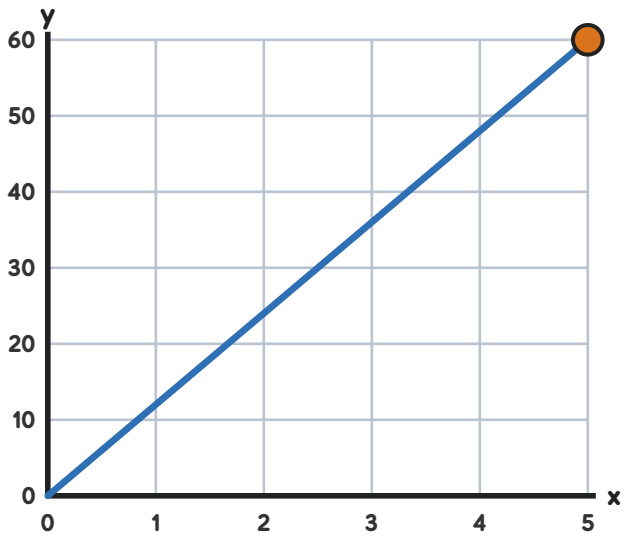
2 point (____ , ____)

k = y / x = ____



3 point (____ , ____)

k = y / x = ____



4 point (____ , ____)

k = y / x = ____

PREVIEW

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Divider Tab 3 of 5

Slide this sheet in front of the pages in this section: 16 to 18.



EQUATIONS

Read k from y = kx. Then write the equation.

Pages 16-18

PREVIEW

My name _____

Find k. Then write each equation.

Read k from the equation

1 $y = 11x$

Show your work

$k =$ ☐

2 $y = 14x$

Show your work

$k =$ ☐

3 $y = 2.5x$

Show your work

$k =$ ☐

4 $y = 0.5x$

Show your work

$k =$ ☐

Write y = kx from x and y

5 When x = 4, y = 48.

Show your work

$y =$ ☐ x

6 When x = 5, y = 75.

Show your work

$y =$ ☐ x

7 When x = 6, y = 9.

Show your work

$y =$ ☐ x

8 When x = 10, y = 35.

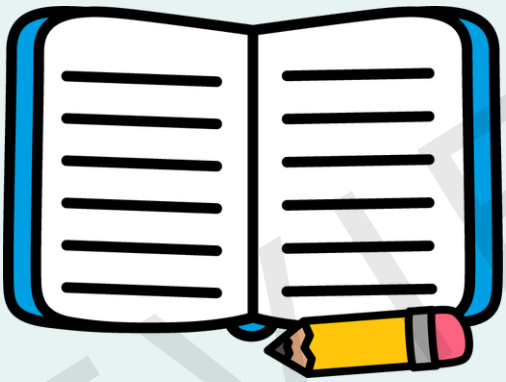
Show your work

$y =$ ☐ x

PREVIEW

Divider Tab 4 of 5

Slide this sheet in front of the pages in this section: 20 to 22.



WORD PROBLEMS

Find k in a story. Then write y = kx.

Pages 20-22

PREVIEW

My name _____

Find k. Then write the equation.

1 A bus uses 8 gallons of fuel to go 96 miles. It uses fuel at a steady rate.
x is **gallons**. y is **miles**.

Show your work

k = ☐ miles per gallon

y = ☐ x

2 Mia types at a steady pace. In 5 minutes she types 150 words.
x is **minutes**. y is **words**.

Show your work

k = ☐ words per minute

y = ☐ x

3 Jade pays 18 dollars for 4 movie tickets. Every ticket costs the same.
x is **tickets**. y is **dollars**.

Show your work

k = ☐ dollars per ticket

y = ☐ x

4 A slow drip fills a pan. In 6 hours the pan gets 15 liters of water.
x is **hours**. y is **liters**.

Show your work

k = ☐ liters per hour

y = ☐ x

PREVIEW

Divider Tab 5 of 5

Slide this sheet in front of the pages in this section: 24 to 25.



CUT AND MATCH

Cut. Match each table or graph. Glue.

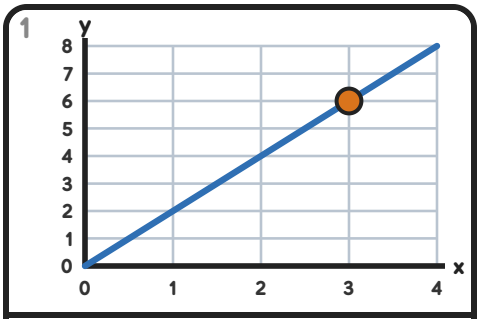
Pages 24-25

PREVIEW

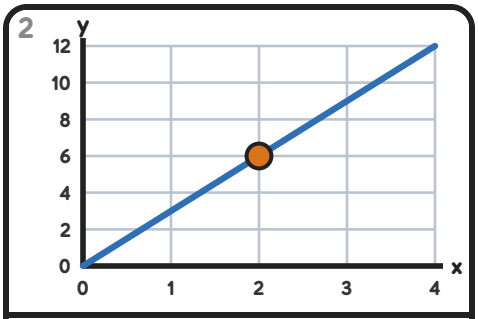
My name _____

Read the point. Glue the matching equation.

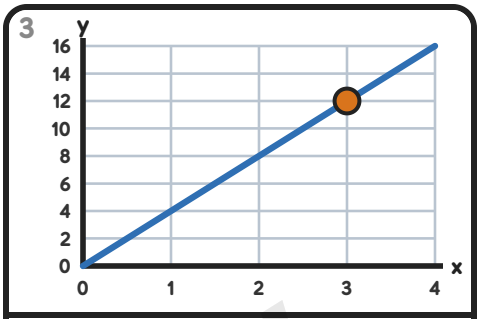
1



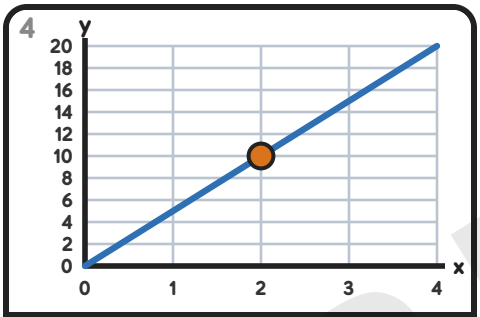
2



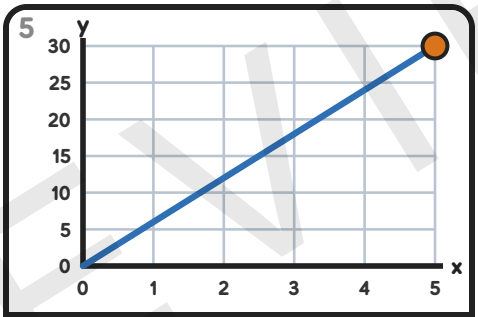
3



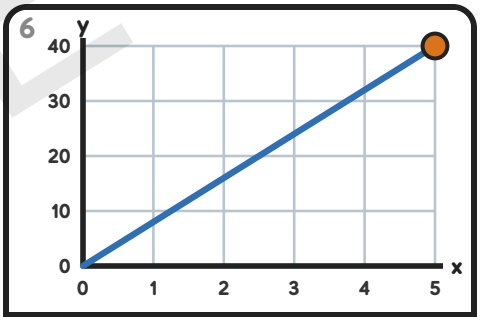
4



5



6



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

$y = 5x$	$y = 8x$	$y = 3x$
$y = 2x$	$y = 4x$	$y = 6x$

PREVIEW

Answer Key 2

Each line is the answer for that item. Money answers are in dollars. A fraction answer may also be written as a decimal.

Page 13: Graphs 2

1) point (5, 30), k = 30 / 5 = 6

2) point (5, 40), k = 40 / 5 = 8

3) point (3, 30), k = 30 / 3 = 10

4) point (5, 60), k = 60 / 5 = 12

Page 14: Graphs 3

1) point (6, 3), k = 3 / 6 = 1/2 (or 0.5)

2) point (4, 6), k = 6 / 4 = 1.5

3) point (4, 10), k = 10 / 4 = 2.5

4) point (4, 3), k = 3 / 4 = 3/4 (or 0.75)

Page 16: Equations 1

1) y = 3x, k = 3

2) y = 6x, k = 6

3) y = 8x, k = 8

4) y = 9x, k = 9

5) x = 2, y = 10: y = 5 x

6) x = 4, y = 8: y = 2 x

7) x = 3, y = 21: y = 7 x

8) x = 5, y = 20: y = 4 x

Page 17: Equations 2

1) y = 11x, k = 11

2) y = 14x, k = 14

3) y = 2.5x, k = 2.5

4) y = 0.5x, k = 0.5

5) x = 4, y = 48: y = 12 x

6) x = 5, y = 75: y = 15 x

7) x = 6, y = 9: y = 1.5 x

8) x = 10, y = 35: y = 3.5 x

Page 18: Equations 3

1) y = 3/4x, k = 3/4 (or 0.75)

2) y = 0.25x, k = 0.25

3) y = 5/4x, k = 5/4 (or 1.25)

4) y = 7/2x, k = 7/2 (or 3.5)

5) x = 3, y = 2: y = 2/3 x

6) x = 10, y = 4: y = 0.4 x

7) x = 8, y = 12: y = 1.5 x

8) x = 12, y = 2: y = 1/6 x

Page 20: Word Problems 1

1) k = 2 dollars per pound; y = 2x

2) k = 3 gallons per bucket; y = 3x

3) k = 5 pages per night; y = 5x

4) k = 6 muffins per box; y = 6x

PREVIEW

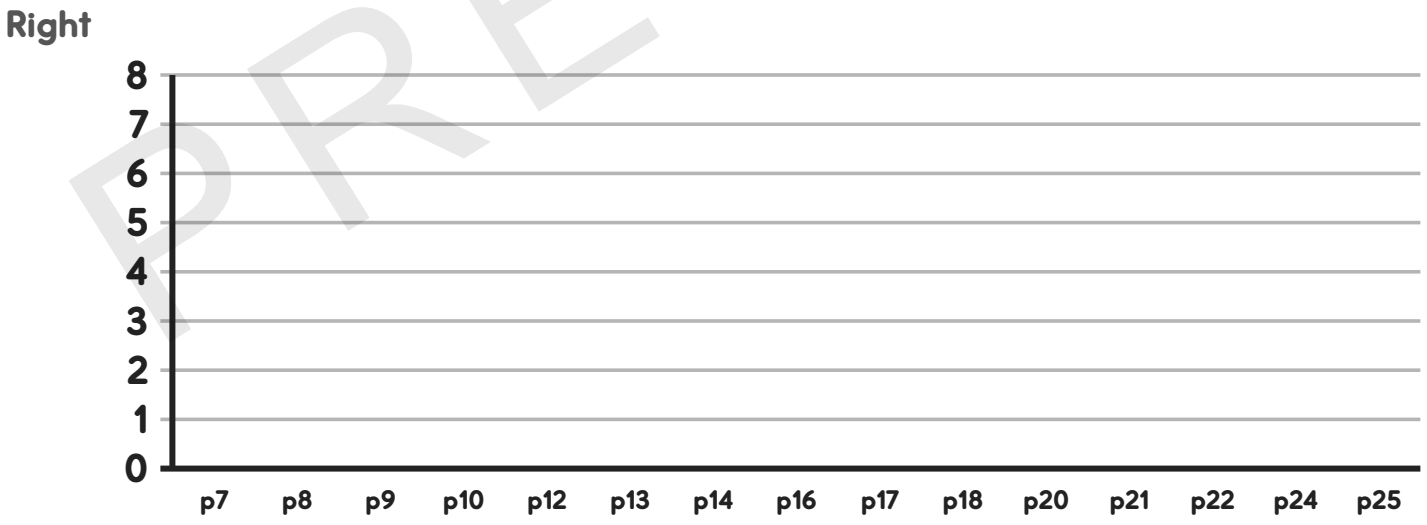
Tracker and Roll-Up

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	Notes
7	Tables 1			4	
8	Tables 2			4	
9	Tables 3			4	
10	Proportional or Not?			4	
12	Graphs 1			4	
13	Graphs 2			4	
14	Graphs 3			4	
16	Equations 1			8	
17	Equations 2			8	
18	Equations 3			8	
20	Word Problems 1			4	
21	Word Problems 2			4	
22	Word Problems 3			4	
24	Cut and Match: Tables			6	
25	Cut and Match: Graphs			6	

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



Notes for the team

PREVIEW

Rates and Prices 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 a rate: a price per pound, miles per hour, pages per night.
- Write down x and y. Divide y by x to find k.
- Write the equation y = kx. Then check it together with another pair.

Try one together (invented numbers)

Dad pays 12 dollars for 4 sandwiches. Every sandwich costs the same.

x is sandwiches. y is dollars.

Show your work

k = ☐ dollars per sandwich

y = ☐ **x**

Try saying

- "What goes on top, the price or the number of things?"
- "If you buy twice as many, what happens to the price?"

Note from the teacher

Note from home

PREVIEW