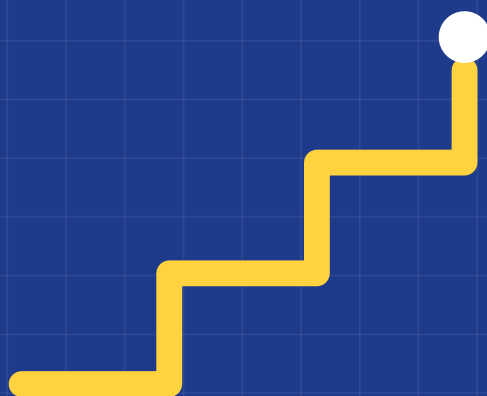




UpOnly Learning



GRADE 6

FREE SAMPLE WORKBOOK

Math Grade 6

One step at a time. · Ages 11–12 · Free sample: 1 of 8 topics

UO-MATH-6

One step at a time

I'm Dr. Evan J. Hasson. I've run a specific chiropractic practice for over twelve years, and I'm a dad of three. My work is about alignment: get the structure right, and everything else works better.

At home, nothing was aligned. I was spending thousands a month on tutors, extracurriculars and programs, and when I asked about enrolling a second or third child the answer was always the same: that'll be double, that'll be triple. The charter school had a waiting list. The good public school had a waiting list. The private schools had the kind of list where it helps to know someone, or to give generously first.

And underneath all of it, the same quiet threat: if you don't pay for this, your child will fall behind. Not sold with evidence. Sold with fear.

So I did my own research, and here is what I found: none of it is secret. The standards are published. The order a child should learn in is written down and freely available. It is just scattered. Nobody had done the work of pulling it together, putting it in order and handing it over. So I did.

When every step has its place, confusion has nowhere to hide.

I built this for my own kids. I'm giving it to yours.

Dr. Evan J. Hasson, DC

Founder and dad of three

Copyright, license and disclaimers

Copyright. © 2026 UpOnly Learning, LLC. All rights reserved. UpOnly Learning™ and the step logo are trademarks of UpOnly Learning, LLC.

Free sample. This free sample may be printed and shared freely, as long as it is shared whole and unchanged, with this notice and the UpOnly Learning name. It may not be sold.

Not a school. UpOnly Learning is a private educational publisher, not a school, and is not affiliated with or endorsed by the US Department of Education, any state board of education or school district. This workbook does not award grades or credits and does not replace any curriculum your state requires. You are responsible for meeting your local homeschool laws.

Standards. Topics are aligned to academic standards in our own interpretation; the owners of those standards do not review or endorse this workbook. Common Core State Standards © Copyright 2010. National Governors Association Center for Best Practices and Council of Chief State School Officers. All rights reserved.

No guaranteed results, and mistakes happen. Every student learns differently. We write and review every question and answer key carefully, and we still get things wrong — an answer key can be wrong, and a question can be worded badly or have two defensible answers. Check the answer key before you hand it over, and trust your own judgement over ours. Found a problem? **Photograph the page and email it to support@uponlearning.com** — the picture tells us more than a description, and we fix it for every family.

Safety. Some activities use household items such as scissors, coins or food. An adult should supervise and skip anything unsafe for the student.

Not professional advice. This workbook does not replace an evaluation by a qualified educator or specialist. The founder is a Doctor of Chiropractic; UpOnly Learning does not provide medical or health advice.

Full terms: uponlearning.com/legal

How to use this workbook

Each topic follows the same steps, so your student always knows what comes next.

1. **① Quick Check.** 10 questions before you teach. Read them aloud for younger students. A high score means you can move faster.
2. **② Learn It.** Key words, step-by-step teaching with lines you can read aloud, worked examples and the mistakes to watch for.
3. **③ We Do It Together.** 10 questions you do side by side. The answer and the "why" are printed right after each question, so you can talk it through.
4. **④ You Try.** 10 questions your student does alone.

Answers with short explanations for every question are in the **Answer Key** at the end of each topic, so students can work without peeking. Go over each wrong answer together using the explanation.

This workbook is printed in full color. To save ink, choose "Black and white" or "Grayscale" in your printer settings; every page still works in black and white.

Want online checks that score themselves and track each student's progress? Visit uponlylearning.com.



How to use this Math book in Grade 6

Pace

Plan on 1 to 2 weeks for each of the 8 topics, about 8 to 16 weeks for the book, in 2 to 4 sessions a week.

A typical session

A 40 to 45 minute session runs Quick Check, Learn It, We Do It Together, and a block of You Try questions, with Show What You Know saved for its own day at the end of the topic.

Tips for this book

- Keep graph paper and a ruler nearby for Negative numbers and Statistics, so your student can draw number lines, dot plots, and box plots by hand.
- Dividing fractions and Ratios and rates are the hardest topics; slow down and draw a model or a double number line before using any rule.
- For Area, surface area and volume, cut a cereal box open into a net so your student can see every face that adds to the surface area.
- Encourage your student to check their own work with the answer key and write one sentence about any mistake they fix.

Your sixth grader is moving from arithmetic toward algebra, and your calm interest in how they think helps them stay confident.

GRADE 6

CONTENTS · UO-MATH-6



Math: Grade 6

Free Sample Workbook · Ages 11–12 · 1 of 8 topics, with a Quick Check, a lesson, We Do It Together, You Try and an answer key

Our story	2
Copyright, license and disclaimers	3
How to use this workbook	4
Topic 1 · Ratios and rates	7
<i>Ratio language, unit rates, percents 6 . RP</i>	
Quick Check 7 · Learn It 8 · We Do It Together 10 · You Try 12 · Answer Key 13	



Ratios and rates

The student will use ratio language to describe relationships, find and use unit rates, complete tables of equivalent ratios, and find a percent of a quantity or the whole when given a part and the percent.

① Quick Check

Do this before the lesson. It shows what your student already knows. Score: ____ / 10

- What is 10% of 80?
A 0.8 **B** 8 **C** 18 **D** 800
- There are 3 red beans and 2 white beans. What is the ratio of white to red?
A 2:3 **B** 2:5 **C** 3:2 **D** 5:2
- What is 50% of 44?
A 2.2 **B** 22 **C** 50 **D** 88
- What is 100% of 45?
A 0.45 **B** 45 **C** 100 **D** 4,500
- A 12-ounce cereal box costs \$3.00 and a 20-ounce box costs \$4.40. Which is the better buy?
A The 12-ounce box, because it costs less **B** The 20-ounce box, at \$0.22 per ounce compared with \$0.25
C They cost the same per ounce **D** The 12-ounce box, at \$0.22 per ounce compared with \$0.25
- 35 is 70% of what number?
A 5 **B** 24.5 **C** 50 **D** 105
- Rafael answered 35 questions and got 7 wrong. What percent did he get right?
A 20% **B** 28% **C** 80% **D** 7%
- A tip is 15% of a \$20 bill. How much is the tip?
A \$3.00 **B** \$30.00 **C** \$0.30 **D** \$5.00
- In a class of 30 students, 40% play an instrument. How many do not play one?
A 12 **B** 18 **C** 24 **D** 60
- Tickets cost 3 for \$21, 5 for \$35 and 8 for \$56. At this rate, how much do 12 tickets cost?
A \$96.00 **B** \$72.00 **C** \$84.00 **D** \$77.00

② Learn It

Key words

- **ratio:** A comparison of two quantities, such as 3 red beans to 2 white beans, written 3:2, 3 to 2, or $\frac{3}{2}$.
- **equivalent ratios:** Ratios that describe the same relationship, like 3:2 and 6:4.
- **rate:** A ratio that compares two quantities with different units, such as 150 miles in 3 hours.
- **unit rate:** A rate for one unit of the second quantity, such as 50 miles per 1 hour.
- **percent:** A rate per 100. 45% means 45 out of every 100.

Warm-up

1. Put 3 red and 2 white beans on the table. Ask: How many red for every white? How many white for every red? How many red out of all the beans?
2. Ask: If 4 pencils cost \$2, how much does 1 pencil cost?
3. Ask: What fraction is 50 out of 100? What is that as a percent?

Ratios are everywhere: recipes, sports stats, sale prices and maps. Today you'll learn to speak the language of ratios.

Teach

1. Ratio language: with 3 red and 2 white beans, the ratio of red to white is 3:2, white to red is 2:3, and red to total is 3:5. Order matters, so always say which quantity comes first.
2. Equivalent ratios: double the beans to 6 red and 4 white. The ratio 6:4 describes the same mix. Build a table: red 3, 6, 9, 12; white 2, 4, 6, 8. Each column is found by multiplying both numbers by the same number.
3. Rates and unit rates: a car travels 150 miles in 6 hours. To find miles per 1 hour, divide: $150 \div 6 = 25$ miles per hour. The unit rate makes comparing easy.
4. Use unit price to compare deals: 12 ounces of cereal for \$3.00 is \$0.25 per ounce. 20 ounces for \$4.40 is \$0.22 per ounce. The 20-ounce box is the better buy.
5. Percent as a rate per 100: 30% means 30 per 100, or $\frac{30}{100}$. To find 30% of 80, think $\frac{30}{100} \times 80 = 24$. Another way: 10% of 80 is 8, so 30% is $3 \times 8 = 24$.
6. Finding the whole: if 18 is 45% of a number, then 45 parts per 100 is 18. 1% is $18 \div 45 = 0.4$, so 100% is $0.4 \times 100 = 40$.

The unit rate is your secret weapon. Once you know how much for one, you can figure out how much for any amount.

Guided practice

1. A lemonade recipe uses 2 cups of lemon juice for every 5 cups of water. Build a table together for 4, 6 and 8 cups of lemon juice.
2. Use the store flyer to choose two sizes of the same product. Have the student find each unit price and decide which is the better buy.
3. Find 25% of 60 together, first using $\frac{25}{100} \times 60$ and then using the fact that 25% is one quarter.
4. Draw a double number line for 0% to 100% above 0 to 60 to show 25% lining up with 15.

Set up a table or a double number line. It keeps the two quantities lined up so nothing gets mixed up.

Worked examples

Mei types 315 words in 7 minutes. At this rate, how many words can she type in 12 minutes?

540 words. Unit rate: $315 \div 7 = 45$ words per minute. Then $45 \times 12 = 540$ words.

A jacket costs \$75. It is on sale for 20% off. How much money do you save?

\$15. 10% of 75 is 7.50, so 20% is $2 \times 7.50 = 15$. Or $20/100 \times 75 = 15$.

Watch for these mistakes

Mistake: The ratio 3:2 and the ratio 2:3 mean the same thing.

Fix: Use beans: 3 red to 2 white is a different mix from 2 red to 3 white. Have the student always name the quantities in order, such as red to white, before writing the numbers.

Mistake: To get an equivalent ratio, add the same number to both parts, so 2:5 is the same as 4:7.

Fix: Build both mixes with beans. 2:5 doubled is 4:10, not 4:7. Equivalent ratios come from multiplying or dividing both parts by the same number, not adding.

③ We Do It Together: 10 questions

Do these side by side. Read each question together, let your student answer, then read the answer and the "why" right below it and talk it through.

1. Mia types 60 words in 3 minutes. What is her unit rate in words per minute?

A 20 B 57 C 63 D 180

Answer: A 20

Why: $60 \div 3 = 20$ words for each minute.

2. Sam runs 20 miles in 4 hours. How many miles per hour is that?

A 80 miles per hour B 5 miles per hour C 24 miles per hour D 16 miles per hour

Answer: B 5 miles per hour

Why: $20 \div 4 = 5$.

3. A car travels 150 miles in 6 hours at a steady speed. What is its unit rate?

A 25 miles per hour B 144 miles per hour C 900 miles per hour D 24 miles per hour

Answer: A 25 miles per hour

Why: Divide miles by hours: $150 \div 6 = 25$ miles for each hour.

4. Which ratio is equivalent to 2:3?

A 4:5 B 4:6 C 3:2 D 2:6

Answer: B 4:6

Why: Multiply both parts by 2. Adding 2 to both parts gives 4:5, which is a different mix.

5. A train goes 180 miles in 3 hours. At the same speed, how far does it go in 4 hours?

A 240 miles B 720 miles C 60 miles D 184 miles

Answer: A 240 miles

Why: $180 \div 3 = 60$ miles per hour, and $60 \times 4 = 240$.

6. Runner A goes 5 miles in 40 minutes. Runner B goes 4 miles in 30 minutes. Who runs faster?

A Runner A, at 7.5 minutes per mile compared with 8 B They run at the same speed
C Runner B, at 7.5 minutes per mile compared with 8 D Runner A, because 5 miles is farther than 4

Answer: C Runner B, at 7.5 minutes per mile compared with 8

Why: A: $40 \div 5 = 8$ minutes per mile. B: $30 \div 4 = 7.5$. Fewer minutes per mile means faster.

7. A punch recipe uses 4 cups of water for every 3 cups of juice. How much juice goes with 12 cups of water?

- A** 8 cups **B** 12 cups **C** 9 cups **D** 16 cups

Answer: C 9 cups

Why: 12 is 3 times 4, so the juice is 3 times 3 = 9. Adding 8 to both parts would be wrong.

8. What is 15% of 60?

- A** 4 **B** 9 **C** 75 **D** 900

Answer: B 9

Why: 10% of 60 is 6 and 5% is 3, so 15% is 9.

9. The ratio of red to white beans is 3:2. Which statement is true?

- A** For every 3 red beans there are 2 white beans **B** For every 3 white beans there are 2 red beans
C Red beans are $\frac{2}{5}$ of all the beans **D** There are 3 more red beans than white beans

Answer: A For every 3 red beans there are 2 white beans

Why: A ratio of 3:2 compares the two groups part to part. Red is 3 out of every 5 beans.

10. Which is greater, 40% of 90 or 90% of 40?

- A** They are equal **B** It cannot be determined **C** 40% of 90 **D** 90% of 40

Answer: A They are equal

Why: $40/100 \times 90 = 36$ and $90/100 \times 40 = 36$. Both multiply the same numbers.

④ You Try: 10 questions

Now your student works alone. Check answers in the Answer Key at the end of this topic. Score: ____ / 10

1. A class has 12 girls and 9 boys. What is the ratio of boys to all students?
A 9:3 **B** 9:21 **C** 12:21 **D** 9:12
2. A 12-ounce box of cereal costs \$3.00. What is the price per ounce?
A \$4.00 **B** \$0.50 **C** \$0.25 **D** \$9.00
3. A class has 12 girls and 9 boys. What is the ratio of girls to boys?
A 9:12 **B** 12:9 **C** 3:4 **D** 12:21
4. What percent of 12 is 9?
A 25% **B** 75% **C** 33% **D** 90%
5. 18 is 45% of what number?
A 0.4 **B** 8.1 **C** 40 **D** 63
6. A \$40 shirt is 25% off. What is the sale price?
A \$10.00 **B** \$65.00 **C** \$15.00 **D** \$30.00
7. Store A sells 4 bottles of water for \$4.80. Store B sells 6 bottles for \$6.90. Which has the lower price per bottle?
A Store A, at \$1.15 per bottle compared with \$1.20 **B** Store A, because \$4.80 is less than \$6.90
C They have the same price per bottle **D** Store B, at \$1.15 per bottle compared with \$1.20
8. Shoes on sale for 20% off cost \$48. What was the original price?
A \$68.00 **B** \$60.00 **C** \$57.60 **D** \$9.60
9. A tap drips 2 cups every 5 minutes. How many cups drip in 2 hours?
A 240 cups **B** 48 cups **C** 24 cups **D** 12 cups
10. Dana says 2:5 is the same as 4:7 because she added 2 to each part. What is the best response?
A No; the equivalent ratio is 4:8 **B** No; ratios stay equivalent by multiplying both parts, so 2:5 doubled is 4:10
C Yes; adding the same number to both parts keeps the ratio **D** Yes; both ratios have a difference of 3

Ratios and rates: Answers and explanations

① Quick Check

- What is 10% of 80?
B 8
10% is one tenth. $80 \div 10 = 8$.
- There are 3 red beans and 2 white beans. What is the ratio of white to red?
A 2:3
Order matters. White comes first, so 2:3.
- What is 50% of 44?
B 22
50% is half. $44 \div 2 = 22$.
- What is 100% of 45?
B 45
100% is the whole amount.
- A 12-ounce cereal box costs \$3.00 and a 20-ounce box costs \$4.40. Which is the better buy?
B The 20-ounce box, at \$0.22 per ounce compared with \$0.25
 $3.00 \div 12 = 0.25$ and $4.40 \div 20 = 0.22$. The lower unit price is the better buy.
- 35 is 70% of what number?
C 50
10% is $35 \div 7 = 5$, so 100% is 50. Check: 70% of 50 = 35.
- Rafael answered 35 questions and got 7 wrong. What percent did he get right?
C 80%
He got 28 of 35 right, which is $\frac{4}{5}$, or 80%. Twenty percent is the share he got wrong.
- A tip is 15% of a \$20 bill. How much is the tip?
A \$3.00
10% of 20 is 2 and 5% is 1, so 15% is 3.
- In a class of 30 students, 40% play an instrument. How many do not play one?
B 18
40% of 30 is 12. Then $30 - 12 = 18$ do not play.
- Tickets cost 3 for \$21, 5 for \$35 and 8 for \$56. At this rate, how much do 12 tickets cost?
C \$84.00
Each ticket costs $21 \div 3 = 7$ dollars in all three cases. $12 \times 7 = 84$.

④ You Try

- A class has 12 girls and 9 boys. What is the ratio of boys to all students?
B 9:21
All students is $12 + 9 = 21$, so the ratio is 9:21, or 3:7.

2. A 12-ounce box of cereal costs \$3.00. What is the price per ounce?

C \$0.25

Divide the cost by the ounces: $3.00 \div 12 = 0.25$.

3. A class has 12 girls and 9 boys. What is the ratio of girls to boys?

B 12:9

Girls come first, so 12:9, which simplifies to 4:3.

4. What percent of 12 is 9?

B 75%

$9/12 = 3/4 = 75/100$. Twenty-five percent is the part that is missing.

5. 18 is 45% of what number?

C 40

1% is $18 \div 45 = 0.4$, so 100% is 40. Check: 45% of 40 = 18.

6. A \$40 shirt is 25% off. What is the sale price?

D \$30.00

25% of 40 is 10. The sale price is $40 - 10 = 30$. Ten dollars is the discount.

7. Store A sells 4 bottles of water for \$4.80. Store B sells 6 bottles for \$6.90. Which has the lower price per bottle?

D Store B, at \$1.15 per bottle compared with \$1.20

A: $4.80 \div 4 = 1.20$. B: $6.90 \div 6 = 1.15$. Compare unit prices, not totals.

8. Shoes on sale for 20% off cost \$48. What was the original price?

B \$60.00

The sale price is 80% of the original. 80% is 48, so 10% is 6 and 100% is 60.

9. A tap drips 2 cups every 5 minutes. How many cups drip in 2 hours?

B 48 cups

2 hours is 120 minutes, which is 24 groups of 5. $24 \times 2 = 48$.

10. Dana says 2:5 is the same as 4:7 because she added 2 to each part. What is the best response?

B No; ratios stay equivalent by multiplying both parts, so 2:5 doubled is 4:10

A ratio compares amounts, so scale both parts by the same factor. Adding changes the mix.

Keep going with the full Math workbook

You just tried one topic. The full Grade 6 workbook has every topic below, each with a Quick Check, a lesson, We Do It Together, up to 90 You Try questions, Show What You Know and a full answer key.

- | | |
|--|--------|
| 1. Ratios and rates | 6.RP |
| 2. Dividing fractions | 6.NS.A |
| 3. GCF, LCM and decimals | 6.NS.B |
| 4. Negative numbers | 6.NS.C |
| 5. Expressions and exponents | 6.EE.A |
| 6. One-step equations and inequalities | 6.EE.B |
| 7. Area, surface area and volume | 6.G |
| 8. Statistics | 6.SP |

Get it, plus online lessons with self-scoring checks and progress tracking, at **uponlylearning.com**.

More from UpOnly Learning

Lessons, practice and books for every subject.



Membership

On-screen lessons, practice, Quick Checks and progress reports in every subject, for the whole household, in several languages, with rewards for practice.



Practice workbooks

Printable workbooks across every subject, ready to print at home, with the answers explained.



Summer preparation books

“Prepare for next grade” books that help students start each new school year with confidence.



Digital flashcards

Tap-to-flip cards with audio in several languages, plus printable versions.



Free resources

Free lessons, samples and guides for students, parents, teachers, tutors and homeschool families.



“Every student deserves what I want for my own kids: clear lessons, one step at a time.”

— Dr. Evan J. Hasson, founder

Visit

uponlearning.com

Scan to see everything we offer





UpOnly Learning

Your next step starts here

Free workbooks, practice sheets and parent guides, plus printable books for every grade we cover, in English, Spanish and Portuguese. We keep adding new grades and subjects, so see what's new on our website.

Visit uponllearning.com



Scan with your phone's camera

Help us make this better

We are constantly updating our material so it keeps getting better. If you spot a mistake, photograph the page and email it to support@uponllearning.com. We read every message.

One step at a time.

UO-MATH-6 · © 2026 UpOnly Learning, LLC. Free sample · free to print and share.