Massachusetts MCAS 3rd Grade Math Workbook

Comprehensive Practice, Challenging Exercises, and Strategic Guidance for Complete Test-Day Confidence



- Strengthen Every Key Skill
- Sharpen Math Skills the Smart Way
- Essential Practice for Real Growth



Practice Master Achieve

Reza Nazari

Massachusetts MCAS 3rd Grade Math Workbook

Comprehensive Practice, Challenging Exercises, and Strategic Guidance for Complete Test-Day Confidence

Reza Nazari

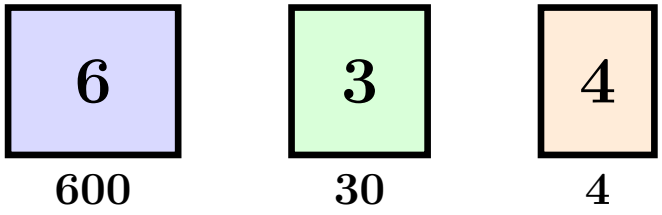
Copyright © 2025 Effortless Math Education Inc

Published by Effortless Math Education

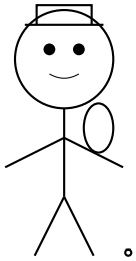
EffortlessMath.com

All rights reserved. No part of this publication may be reproduced, distributed, or transmitted in any form or by any means, including photocopying, recording, or other electronic or mechanical methods, without the prior written permission of the author, except in the case of brief quotations embodied in critical reviews and certain other noncommercial uses permitted by copyright law, including Section 107 or 108 of the 1976 United States Copyright Act.

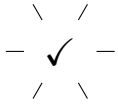
Copyright © 2025



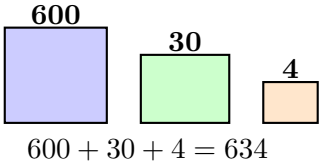
"The 3 is in the tens place, so it means 30!" Milo added.



"And the 4 is in the ones place, so it's just 4!" they said together.



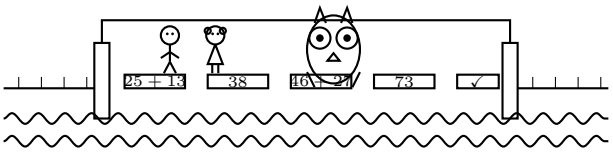
"Excellent!" Digit cheered. "$600 + 30 + 4 = 634$. You've unlocked the path!"



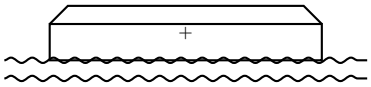
Place Value Snapshot

- Add each place to get the whole number: $600 + 30 + 4 = 634$.
- Each step to the left is $\times 10$ the place on its right.
- Example: $4{,}827 = 4{,}000 + 800 + 20 + 7$.

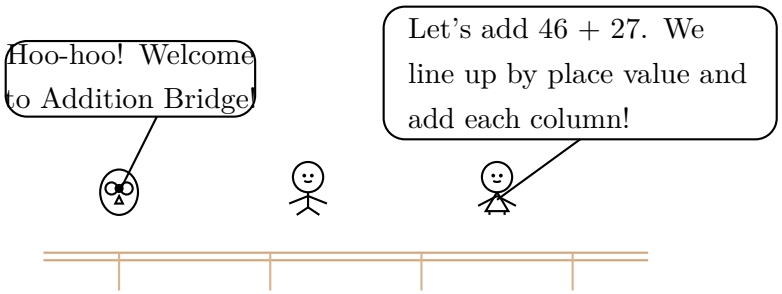
Addition Bridge



After climbing down Place Value Peak, Milo and Maya came to a wide river. The only way across was an old wooden bridge with math problems carved into each plank!



Professor Hoot was waiting for them. "Hoo-hoo! Welcome to Addition Bridge! Step only on the correct answers, or the planks will wobble!"



"I'll show you!" Maya said. "Let's add $46 + 27$. We line up the numbers by place value and add each column!"

EffortlessMath.com

TIP: Lining Up Numbers

- Always line up numbers by place value!
- Ones under ones, tens under tens.
- This makes adding much easier!

$$\begin{array}{r} 4\ 6 \\ +\ 2\ 7 \\ \hline \end{array}$$

Adding with Regrouping (46 + 27)

- **Step 1: Add ones** — $6 + 7 = 13$. Write 3 in ones; carry 1 to tens.
- **Step 2: Add tens** — $1 + 4 + 2 = 7$. Write 7 in tens.
- **Answer:** $46 + 27 = 73$.

"$46 + 27 = 73$!" Milo cheered.

They carefully stepped on the correct answers and crossed the bridge safely!

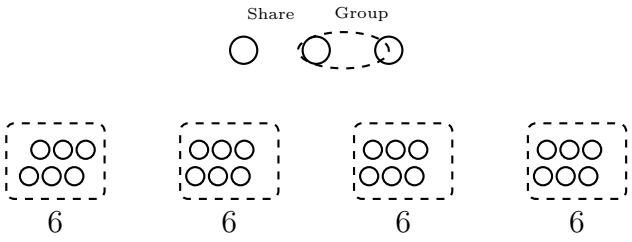
KEY POINT: Carrying

- When adding, if ones add up to 10 or more, carry to the tens place!
- Example: $6 + 7 = 13$, write 3 and carry 1 to tens.

$$\begin{array}{r} {\scriptstyle 1}\ 46 \\ +\ 27 \\ \hline 73 \end{array}$$

TIP

- Division is **sharing** or **grouping**.
- Example: $24 \div 4 = 6$ (4 friends each get 6).
- Or $24 \div 6 = 4$ (6 in a group makes 4 groups).



$24 \div 4 = 6$ apples in each basket

Quick Review: Division

Division = Sharing equally = Splitting into groups

$24 \div 4 = 6$ means "24 shared among 4 groups = 6 in each group"

Division is the opposite of multiplication:

- If $4 \times 6 = 24$, then $24 \div 4 = 6$ and $24 \div 6 = 4$
- If $5 \times 6 = 30$, then $30 \div 5 = 6$ and $30 \div 6 = 5$

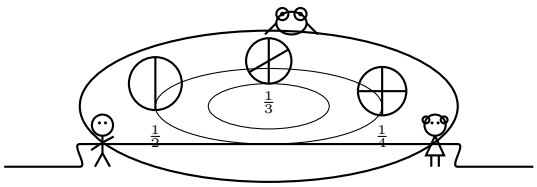
Key division facts:

$$10 \div 2 = 5 \quad 15 \div 3 = 5 \quad 20 \div 4 = 5 \quad 24 \div 6 = 4$$

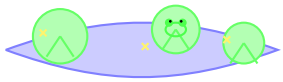
$$18 \div 2 = 9 \quad 21 \div 3 = 7 \quad 32 \div 4 = 8 \quad 36 \div 6 = 6$$

$$35 \div 5 = 7 \quad 42 \div 7 = 6 \quad 48 \div 8 = 6 \quad 54 \div 9 = 6$$

Fraction Pond



A sparkling pond appeared before them, with lily pads floating on the surface. Each lily pad was divided into equal parts!



A wise frog sat on one of the pads. "Ribbit! Welcome to Fraction Pond! A **fraction** shows parts of a whole!"

KEY POINT

- A fraction shows parts of a whole.
- Numerator = how many parts you have; denominator = total equal parts.
- Picture slicing a pizza into equal pieces.

"Look at these lily pads," Maya said. "This one is cut in half – that's $\frac{1}{2}$!"

"And this one is cut into 4 equal parts," Milo added. "Each piece is $\frac{1}{4}$, or one-fourth!"

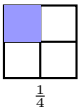
Fractions at a Glance

- **Half** ($\frac{1}{2}$): 1 part out of 2 equal parts.
- **Fourth** ($\frac{1}{4}$): 1 part out of 4 equal parts.

The frog smiled. "The **top number** (numerator) tells how many parts you have. The **bottom number** (denominator) tells how many equal parts make the whole!"

REMEMBER

- Numerator = parts you have. Denominator = total parts.
- $\frac{1}{4}$ is 1 out of 4 equal parts.



Quick Review: Fractions

A **fraction** represents parts of a whole:

$$\frac{\text{numerator (parts you have)}}{\text{denominator (total equal parts)}}$$

Examples:

- $\frac{1}{2}$ = 1 out of 2 equal parts (one half)
- $\frac{2}{3}$ = 2 out of 3 equal parts (two thirds)
- $\frac{3}{4}$ = 3 out of 4 equal parts (three fourths)

Comparing fractions with the same denominator:

$\frac{1}{4} < \frac{2}{4} < \frac{3}{4} < \frac{4}{4}$ (more parts = larger fraction)

Equivalent fractions: $\frac{1}{2} = \frac{2}{4} = \frac{3}{6} = \frac{4}{8}$

Fraction Examples:



1 out of 2 2 out of 3 3 out of 4

Comparing Fractions

Rule: With the same-size whole, more shaded parts = larger fraction.

Examples: $\frac{1}{4} < \frac{2}{4} < \frac{3}{4} < 1$.