

BRIGHT SCHOLARS • SUMMER

SUMMER SERIES • GRADE 7 REVIEW



MASTERING 7TH GRADE

SUMMER

Review 7th Grade • Get Ready for 8th

A Complete Mixed-Subject Summer Workbook: Math, English Language Arts,
Science, Social Studies, Critical Thinking, Writing, and Study Skills

Ten weeks. Every subject. Ready for 8th grade.

MATH • READING • SCIENCE • SOCIAL STUDIES • LOGIC • WRITING • STUDY SKILLS

THIS BOOK BELONGS TO

Name _____

Grade Just
Finished _____

Summer Start
Date _____

Summer Finish
Date _____

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Your 10-Week Summer Plan

Do one lesson a day, five days a week. Check the box when you finish a lesson. In Weeks 1 to 5, also do that week's Skill Builder on any day. When a unit's last lesson is done, take its Review Quiz the same day or the next.

WEEK	DAY 1	DAY 2	DAY 3	DAY 4	DAY 5	SKILL BUILDER
1	☐ 2.1 Reading p. 51	☐ 1.1 Math p. 12	☐ 5.1 Logic p. 119	☐ 3.1 Science p. 77	☐ 2.2 Reading p. 54	☐ 7.1 Skills p. 152
2	☐ 1.2 Math p. 15	☐ 3.2 Science p. 80	☐ 5.2 Logic p. 121	☐ 2.3 Reading p. 56	☐ 1.3 Math p. 18	☐ 7.2 Skills p. 154
3	☐ 3.3 Science p. 83	☐ 5.3 Logic p. 123	☐ 2.4 Reading p. 59	☐ 1.4 Math p. 21	☐ 3.4 Science p. 86	☐ 7.3 Skills p. 156
4	☐ 2.5 Reading p. 61	☐ 5.4 Logic p. 125	☐ 1.5 Math p. 25	☐ 4.1 Soc. Studies p. 102	☐ 3.5 Science p. 89	☐ 7.4 Skills p. 158
5	☐ 2.6 Reading p. 63	☐ 1.6 Math p. 28	☐ 6.1 Writing p. 132	☐ 4.2 Soc. Studies p. 105	☐ 3.6 Science p. 91	☐ 7.5 Skills p. 161 ☐ Unit 7 Quiz p. 163
6	☐ 5.5 Logic p. 128 ☐ Unit 5 Quiz p. 130	☐ 2.7 Reading p. 65	☐ 1.7 Math p. 30	☐ 6.2 Writing p. 135	☐ 3.7 Science p. 93	
7	☐ 4.3 Soc. Studies p. 107	☐ 2.8 Reading p. 68	☐ 3.8 Science p. 96 ☐ Unit 3 Quiz p. 99	☐ 1.8 Math p. 33	☐ 2.9 Reading p. 71 ☐ Unit 2 Quiz p. 74	
8	☐ 6.3 Writing p. 137	☐ 4.4 Soc. Studies p. 109	☐ 1.9 Math p. 36	☐ 6.4 Writing p. 139	☐ 4.5 Soc. Studies p. 112	
9	☐ 1.10 Math p. 39	☐ 4.6 Soc. Studies p. 114 ☐ Unit 4 Quiz p. 116	☐ 6.5 Writing p. 141	☐ 1.11 Math p. 43 ☐ Unit 1 Quiz p. 48	☐ 6.6 Writing p. 144 ☐ Unit 6 Quiz p. 149	
10	☐ Final Review A: Math p. 165	☐ Final Review B: Reading p. 167	☐ Final Review C: Science p. 168	☐ Final Review D and E p. 170	☐ Final Assessment and Certificate p. 172	

Math Foundations: Numbers, Operations, and Pre-Algebra

? BIG QUESTION

How can a handful of number skills help you find the real price of a sale item, read a map, solve a puzzle, and decide whether a game is fair?

BY THE END OF THIS UNIT, I CAN

- ☐ compute with integers and other rational numbers, including negative fractions and decimals.
- ☐ convert fractions, decimals, and percents and solve percent problems such as tax, tips, and percent change.
- ☐ solve ratio and rate problems and find the constant of proportionality.
- ☐ write and solve equations and inequalities, and graph inequalities.
- ☐ use the coordinate plane, angle facts, and scale drawings, and find area, surface area, and volume.
- ☐ analyze data and find probabilities of simple and compound events.

UNIT ROADMAP

- 1.1 Integers and Rational Numbers..... p. 12
- 1.2 Fractions, Decimals, and Percents..... p. 15
- 1.3 Ratios and Proportional Relationships p. 18
- 1.4 Percent Applications..... p. 21
- 1.5 Expressions and Equations..... p. 25
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- 1.8 Scale Drawings and Angle Relationships..... p. 33
- 1.9 Area, Surface Area, and Volume p. 36
- 1.10 Sampling, Statistics, and Probability p. 39
- 1.11 Compound Events and Probability Models. p. 43

Suggested time: Weeks 1–9, 11 lessons spread through the summer

Standards: 7.NS.A.1–3; 7.RP.A.1–3; 7.EE.A.1; 7.EE.B.3–4; 7.G.A.1; 7.G.B.4–6; 7.SP.A.1–2; 7.SP.B.4; 7.SP.C.5–8

KEY VOCABULARY

rational number

absolute value

percent change

unit rate

constant of proportionality

inequality

scale drawing

surface area

median

compound event

Integers and Rational Numbers

KEY TERMS integer • rational number • opposite • absolute value



MINI LESSON

Numbers can be positive or negative. The whole numbers and their opposites are called the **integers**: ..., -3, -2, -1, 0, 1, 2, 3, ...

A **rational number** is any number that can be written as a fraction $\frac{a}{b}$, where a and b are integers and $b \neq 0$.

Fractions, decimals that end or repeat, and all integers are rational numbers. Negative fractions and decimals, such as $-\frac{2}{3}$ and -1.5, follow the same sign rules as integers.



OPPOSITES AND ABSOLUTE VALUE

The **opposite** of a number is the same distance from zero, on the other side of the number line. The opposite of -7 is 7.

The **absolute value** of a number is its distance from zero, so it is never negative: $|-7| = 7$.



OPERATING WITH INTEGERS

Operation	Rule	Example
Add, same signs	Add the absolute values and keep the sign.	$(-4) + (-3) = -7$
Add, different signs	Subtract the absolute values. Keep the sign of the number with the larger absolute value.	$(-9) + 5 = -4$
Subtract	Add the opposite.	$8 - (-3) = 8 + 3 = 11$
Multiply or divide	Same signs give a positive result. Different signs give a negative result.	$(-6) \times (-2) = 12$



GUIDED PRACTICE

Work through these problems. The first one is done for you.



EXAMPLE 1 Find $(-6) + 9$

STEP 1 The signs are different, so subtract the absolute values: $9 - 6 = 3$.

STEP 2 Keep the sign of the number with the larger absolute value. 9 is positive.

ANSWER 3

1 $(-8) + (-5) =$ _____

2 $12 - (-4) =$ _____

3 $(-6) \times 7 =$ _____

4 $(-24) \div (-6) =$ _____



INDEPENDENT PRACTICE

5 Which expression is equal to -15 ?

(A) $(-9) + 6$

(B) $(-20) + 6$

(C) $(-3) \times 5$

(D) $(-45) \div (-3)$

6 Which of the following is NOT a rational number?

(A) $\frac{3}{4}$

(B) -2

(C) $0.333\ldots$

(D) $\sqrt{7}$

7 The opposite of -11 is _____.

8 $|-16| =$ _____

9 $-\frac{2}{3} + \frac{1}{6} =$ _____

10 $(-1.5) \times (-4) =$ _____

11 Every integer is a rational number.

(T) (F)

12 The product of two negative numbers is always negative.

(T) (F)



APPLICATION AND ANALYSIS

13 The morning temperature was -4°F . By afternoon it had risen 13 degrees. What is the new temperature? Show your work.

New temperature: _____

Reading Comprehension: Fiction

KEY TERMS setting • character • conflict • summarize



MINI LESSON

Strong readers do not just read words; they think about meaning. As you read a story, ask yourself: Who is in it? Where and when does it happen? What is the problem? What is changing?



ACTIVE READING CHECKLIST

1. Read the title and the first paragraph slowly.
2. Underline or note new vocabulary.
3. Pause after every paragraph and summarize it in your head.
4. Notice how the characters feel and why.
5. Watch for the problem and how it gets solved.



PASSAGE: "THE LAST LANTERN"

Maya gripped the cold metal handle of the lantern as the wind tugged at her cloak. The mountain trail was steeper than the map had shown, and the sun had disappeared behind the western ridge nearly an hour ago. Her grandfather's warning repeated in her mind: never leave the village after dark. But her younger brother Tomas had not returned from gathering herbs, and the adults searching the lower trails had found no sign of him. Maya knew the narrow upper path better than anyone her age. She also knew that knowing a trail in daylight was not the same as climbing it at night.

The lantern's flame flickered as a gust swept through the pines. Maya cupped one hand around the glass and moved slowly, testing each patch of ground before trusting it. Below her, the village lights looked like tiny stars. Above her, the trail bent around a wall of black rock. At the bend she found a torn strip of red cloth snagged on a thorn, the same color as Tomas's scarf. Her fear sharpened, but so did her focus. She called his name and listened. Only the wind answered.

For one moment, Maya considered turning back for another adult. Then she noticed fresh marks in the mud leading toward an old shepherd's shelter. The cold had numbed her fingers, and the lantern was burning lower. She took three careful steps, called again, and heard a thin reply from somewhere beyond the rocks. Maya lifted the lantern higher. The safest choice no longer felt like retreat; it felt like moving forward carefully, one step at a time.

Theme and Character Analysis

KEY TERMS theme • topic • character trait • character analysis

MINI LESSON

A **theme** is a message or lesson about life that the author wants you to think about. Themes are usually about big ideas like friendship, courage, fairness, or growing up. Themes are rarely stated directly; you find them by thinking about what the story shows.

A **character analysis** looks at what a character says, does, and feels, and what those choices reveal about who the character is.

TOPIC OR THEME?

A **topic** is one or two words. A **theme** is a complete sentence about life.

Common topics: perseverance, identity, family, courage, kindness, jealousy, growing up, freedom.

“Friendship” is a topic. “True friends stay even when it is hard” is a theme.

PASSAGE: “THE QUIET LETTER”

When Jamal moved to a new school in the middle of October, he decided the easiest plan was to be invisible. He arrived just before the bell, sat near the back, and spent lunch pretending to read. For two weeks, nobody was unkind to him, but nobody asked him to join a table either. That almost felt worse. At his old school, he had known which teachers joked, which hallway was fastest, and where his friends would be waiting. Here, every ordinary choice seemed to require courage.

One afternoon, Jamal opened his locker and found a folded note resting on top of his science book. It said, “I see you. Want to sit with us tomorrow?” and was signed only N. He carried the note home, reading it so many times that the fold softened.

The next day, he entered the cafeteria expecting that he might have misunderstood. Then a girl at the corner table lifted one hand in a small wave. Her notebook had the same tiny flower drawn beside the letter N. Nadia shifted her backpack off the empty chair beside her. Jamal hesitated long enough to feel his old instinct telling him to disappear. Then he walked toward the table.

The conversation was awkward for the first minute, then ordinary: homework, a terrible cafeteria cookie, a science project. Ordinary had never felt so good. By the end of lunch, Jamal understood that belonging did not always begin with a grand welcome. Sometimes it began because one person paid attention.

Unit 1 Review Quiz

Try this quiz without looking back at the lessons, then check your answers in the Answer Key. Aim for 80% or higher.

- 1 Find $-7 + 12$.
(A) -19 (B) -5 (C) 5 (D) 19
- 2 What is 0.6 written as a fraction in lowest terms?
(A) $\frac{6}{10}$ (B) $\frac{3}{5}$ (C) $\frac{60}{100}$ (D) $\frac{1}{6}$
- 3 Solve for x : $4x + 3 = 27$
(A) 12 (B) 8 (C) 7 (D) 6
- 4 Which point is in Quadrant III?
(A) $(-2, -1)$ (B) $(-4, 3)$ (C) $(2, -5)$ (D) $(0, -7)$
- 5 What is the area of a triangle with base 12 cm and height 8 cm?
(A) 20 cm^2 (B) 24 cm^2 (C) 48 cm^2 (D) 96 cm^2
- 6 A worker earns $\$24$ in 4 hours. What is the unit rate?
(A) $\$24$ per hour (B) $\$8$ per hour (C) $\$4$ per hour (D) $\$6$ per hour
- 7 Solve: $-3x \leq 15$
(A) $x \geq -5$ (B) $x \leq -5$ (C) $x \geq 5$ (D) $x \leq 5$
- 8 What is the median of the data set $3, 8, 1, 7, 5$?
(A) 3 (B) 5 (C) 7 (D) 8
- 9 75% written as a decimal is _____.
- 10 If 2 books cost $\$7$, then 6 books cost \$_____.
- 11 An angle measuring 132° is _____ (acute, obtuse, or right).
- 12 Two angles whose measures add to 90° are called _____ angles.
- 13 Every rational number can be written as a fraction $\frac{a}{b}$, where a and b are integers and $b \neq 0$. (T) (F)
- 14 The mean of a data set is always equal to its median. (T) (F)

Cumulative Final Assessment

Units 1–7 • Suggested time: 60 minutes

Name _____ Date _____ Score _____

Part 1 Multiple Choice	Part 2 Short Answer	Part 3 Extended Response	Total
____ / 10	____ / 10	____ / 5	____ / 25

This final assessment draws from every unit. Take your time and show your work where space is given. When you finish, check your answers in the Answer Key. A score of 20 or higher (80%) shows strong understanding; review any missed items to decide what to practice next.

Part 1: Multiple Choice (10 points, 1 point each)

- Which expression is equal to -3 ?
 (A) $6 + (-9)$ (B) $-2 - (-5)$ (C) $-4 + 7$ (D) $(-6) \div (-2)$
- Solve for x : $2x + 7 = 19$
 (A) $x = 5$ (B) $x = 6$ (C) $x = 12$ (D) $x = 26$
- Which fraction in lowest terms is equal to 0.24 ?
 (A) $\frac{24}{100}$ (B) $\frac{1}{4}$ (C) $\frac{6}{25}$ (D) $\frac{12}{5}$
- "Noor stared at the blank page, wishing she had started her essay earlier." Which point of view is used?
 (A) First person (B) Second person
 (C) Third person limited (D) Third person omniscient
- Which body system brings oxygen into the body and removes carbon dioxide?
 (A) Digestive (B) Skeletal (C) Immune (D) Respiratory
- Which is a secondary source about ancient Egypt?
 (A) A carving of hieroglyphics from a tomb
 (B) A modern encyclopedia article about the pyramids
 (C) A statue of a pharaoh
 (D) A scroll written by an Egyptian scribe

Answer Key

Accept any answer that is equivalent in meaning or value.
Sample answers show the key ideas a complete response should include; wording will vary. Multiple-choice and true/false answers are in bold.

Unit 1: Math Foundations: Numbers, Operations, and Pre-Algebra

Lesson 1.1 Integers and Rational Numbers (p. 12)

1. -13 (same signs: add $8 + 5$ and keep the negative sign)
2. 16 (subtracting a negative is adding a positive: $12 + 4$)
3. -42 (different signs give a negative product)
4. 4 (same signs give a positive quotient)
5. **C.** $(-3) \times 5 = -15$. The others equal -3, -14, and 15.
6. **D.** $\sqrt{7}$ is irrational: its decimal never ends and never repeats. The others can be written as $\frac{3}{4}$, $\frac{-2}{1}$, and $\frac{1}{3}$.
7. 11
8. 16
9. $-\frac{1}{2}$ ($-\frac{4}{6} + \frac{1}{6} = -\frac{3}{6} = -\frac{1}{2}$)
10. 6 (same signs give a positive product: $1.5 \times 4 = 6$)
11. **T.** Any integer n can be written as $\frac{n}{1}$.
12. **F.** The product of two negative numbers is always positive, for example $(-3) \times (-2) = 6$.
13. 9°F ($-4 + 13 = 9$)
14. -125 m. Below sea level is negative, so the start is -85. Descending 40 m adds -40: $-85 + (-40) = -125$. The submarine is 125 m below sea level.
15. -2, $-\frac{7}{4}$, -0.5, $\frac{3}{4}$, 1.2 (as decimals: -2, -1.75, -0.5, 0.75, 1.2)

Lesson 1.2 Fractions, Decimals, and Percents (p. 15)

1. $\frac{3}{5} = 0.6 = 60\%$; $\frac{2}{5} = 0.40 = 40\%$; $\frac{17}{20} = 0.85 = 85\%$; $\frac{7}{8} = 0.875 = 87.5\%$; $\frac{1}{8} = 0.125 = 12.5\%$
2. **B.** $3 \div 8 = 0.375$
3. **C.** $65 \div 100 = 0.65$
4. **D.** $35\% = 0.35$, $\frac{3}{8} = 0.375$, and $0.4 = 0.40$, so the order is 35% , $\frac{3}{8}$, 0.4.

5. $\frac{3}{25}$ ($\frac{12}{100} = \frac{3}{25}$)
6. 0.45 ($9 \div 20 = 0.45$)
7. **T.** For example, $0.45 = \frac{45}{100} = \frac{9}{20}$.
8. \$28. Method 1: 30% of $\$40 = 0.30 \times 40 = \$12$, then $\$40 - \$12 = \$28$. Method 2: the sale price is $100\% - 30\% = 70\%$ of the original, and $0.70 \times \$40 = \$28$.
9. $\frac{18}{24} = \frac{3}{4} = 0.75 = 75\%$
10. 1 C, 2 A, 3 E, 4 D, 5 B

Lesson 1.3 Ratios and Proportional Relationships (p. 18)

1. 8 cups of flour (12 eggs is 4×3 eggs, so use $4 \times 2 = 8$ cups)
2. \$0.25 per pencil ($\$1.25 \div 5$)
3. $k = 60$ ($180 \div 3$). It means the car travels 60 miles each hour (60 miles per hour), so $y = 60x$.
4. **B.** $18x = 6 \times 24 = 144$, so $x = 8$. (Check: $\frac{6}{8} = \frac{3}{4} = \frac{18}{24}$.)
5. **A.** $4.5 \times 25 = 112.5$ miles
6. **D.** Divide both terms by 4: $8 : 12 = 2 : 3$.
7. \$17.50 ($\$10 \div 4 = \$2.50$ each; $7 \times \$2.50$)
8. 15 people (9 cups is 3 times as much, and $3 \times 5 = 15$)
9. 10 cups of white; 25 cups of paint in total ($15 \div 3 = 5$, so multiply both parts by 5: $2 \times 5 = 10$ white; $15 + 10 = 25$)
10. Store B. Store A: $\$9 \div 6 = \$1.50$ per bottle. Store B: $\$14 \div 10 = \$1.40$ per bottle. \$1.40 is less, so Store B is the better buy.
11. 120 miles: 4 gallons; 150 miles: 5 gallons; 210 miles: 7 gallons (the car goes 30 miles per gallon, so miles = $30 \times$ gallons)

Lesson 1.4 Percent Applications (p. 21)

1. 15% increase (change \$6; $\frac{6}{40} = 0.15 = 15\%$)
2. Tip \$6.48; total \$42.48
3. Tax \$1.50; total \$26.50 (or $25 \times 1.06 = 26.50$)
4. **B.** The change is 500, and $\frac{500}{2,000} = 0.25 = 25\%$. (Choice A divides by the new amount, 2,500.)
5. **C.** The discount is $0.30 \times \$90 = \$27$, so the sale price is $\$90 - \$27 = \$63$ (or $0.70 \times \$90 = \$63$).
6. **A.** The markup is $0.40 \times \$30 = \$12$, so the selling price is $\$30 + \$12 = \$42$.