Georgia Georgia Milestones Grade 7 Math Summer Review

8-Week Core Review with Practice, Quizzes & Answers

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Grade 7 Summer Math Review

This 8-week plan reviews the Grade 7 math students already learned this year.

How each week works

- Monday through Thursday are short review days.
- Each day starts with a focused Lesson Review.
- Each practice day has 6 problems.
- Friday is a 10-question quiz.
- Answers explain the thinking, not just the final number.

Complete the practice first, then use the answer key to check your reasoning.

Your 8-Week Summer Review Plan

Use this book four days a week, then take the quiz on Friday.

Weekly Schedule

Week	Monday	Tuesday	Wednesday	Thursday	Friday
1	Day 1	Day 2	Day 3	Day 4	Quiz 1
2	Day 5	Day 6	Day 7	Day 8	Quiz 2
3	Day 9	Day 10	Day 11	Day 12	Quiz 3
4	Day 13	Day 14	Day 15	Day 16	Quiz 4
5	Day 17	Day 18	Day 19	Day 20	Quiz 5
6	Day 21	Day 22	Day 23	Day 24	Quiz 6
7	Day 25	Day 26	Day 27	Day 28	Quiz 7
8	Day 29	Day 30	Mixed Review	Final Review	Final Quiz

For students

Read the Lesson Review first. Try all 6 problems before checking answers. If you miss one, read the explanation and fix your work.

For parents and teachers

The daily pages are meant to be short. If a student struggles, use the answer explanation as the teaching step, then have the student correct the problem.

Goal

By the end of 8 weeks, students will have completed 192 daily practice problems and 80 quiz questions, with review across the full Grade 7 math year.

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Your 8-week summer review plan

WEEK

1

Proportional Relationships and Percents

This Week's Days

Day 1 Unit Rates and Proportional Relationships

A **unit rate** tells how much there is for 1 unit, such as miles per hour or dollars per pound.

- To find a unit rate, divide: amount $\div$ number of units.
- A complex fraction like $\frac{\frac{3}{4}}{\frac{1}{6}}$ means $\frac{3}{4} \div \frac{1}{6}$.
- A relationship is **proportional** when every ratio $\frac{y}{x}$ is the same.
- In a proportional relationship, the graph is a straight line through $(0, 0)$.
- The constant unit rate is the multiplier that connects x and y.

Always check both the numbers and the meaning of the units.

Practice

1. *Find the unit rate:* $\dfrac{\frac{3}{4}\ \textit{mile}}{\frac{1}{6}\ \textit{hour}}$. _____

2. *A recipe uses* $\frac{2}{5}$ *cup of oil for* $\frac{1}{3}$ *batch. How much oil is used for* 1 *batch?*

3. *Does the table show a proportional relationship?*

x	2	4	6
y	9	18	27

4. *Does the table show a proportional relationship?*

x	1	3	5
y	4	10	16

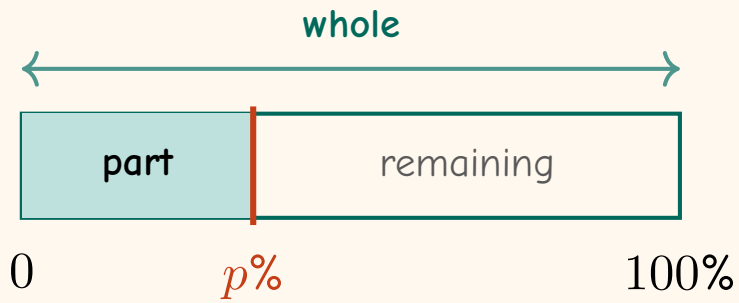
5. *A proportional graph passes through* $(0, 0)$ *and* $(5, 15)$. *What is the unit rate and equation?*

6. *Six tickets cost* $\$16.50$ *at the same rate. How much do* 10 *tickets cost?*

Day 4 Percent Problems and Proportions

Percent means "per 100," so every percent problem connects a part, a whole, and a percent.

- To find a part, multiply: part $=$ percent $\times$ whole.
- To find a whole, divide: whole $=$ part $\div$ percent.
- To find a percent, divide $\frac{\text{part}}{\text{whole}}$ and convert to a percent.
- The proportion method is $\frac{\text{part}}{\text{whole}} = \frac{p}{100}$.
- Convert percents to decimals before multiplying, such as $35\% = 0.35$.



Ask what is missing first: the part, the whole, or the percent.

Practice

1. *What is 35% of 240?*
2. *45 is 60% of what number?*
3. *18 is what percent of 72?*
4. *In a survey, 28 out of 80 students chose art club. What percent chose art club?*
5. *Solve with a proportion: what is 18% of 150?*
6. *A club has 125 members. If 24% volunteered at the food drive, how many members volunteered?*

Week 1 Quiz

Proportional Relationships and Percents

Name: _____ Date: _____ Score: _____/10

1. Which unit rate is equal to $\frac{\frac{2}{3}\ mile}{\frac{1}{4}\ hour}$?

A. $\frac{1}{6}$ mph **B.** $\frac{8}{3}$ mph

C. $\frac{3}{8}$ mph **D.** 6 mph

2. Does the table show a proportional relationship?

x	2	6	9
y	10	30	45

3. Four pounds of peaches cost $\$11$. Write the proportional equation for total cost y and pounds x.

4. True or False: A straight line that crosses the y-axis at $(0, 2)$ can represent a proportional relationship.

☐ True ☐ False

5. What is 30% of 180? _____

6. 42 is 70% of what number? _____

7. What percent of 150 is 24? _____

8. Store A sells 5 notebooks for $\$12.50$. Store B sells 8 notebooks for $\$19.20$. Which store has the lower unit price?

9. A proportional line contains the point $(7, 28)$. What point on the line has $x = 1$?

10. Solve the proportion $\frac{x}{80} = \frac{35}{100}$.

WEEK

6

Geometry and Measurement

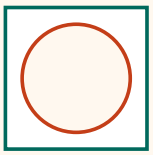
This Week's Days

Day 23 Area of Circles and Composite Shapes

Circle area measures the space inside a circle.

- Use $A = \pi r^2$ for the area of a circle.
- Always use the radius; if given diameter, divide by 2 first.
- A semicircle is half of a circle, so its area is $\frac{1}{2}\pi r^2$.
- Composite shapes are made from simpler shapes.
- Add areas for attached parts and subtract areas for cut-out parts.

rectangle



subtract cut-out

Label square units because area measures two-dimensional space.

Practice

1. Find the area of a circle with radius 5 cm. Use $\pi \approx 3.14$.

2. Find the area of a circle with diameter 18 m. Use $\pi \approx 3.14$.

3. Find the area of a semicircle with diameter 10 ft. Use $\pi \approx 3.14$.

4. A rectangle is 12 cm by 8 cm with a semicircle attached to the 8 cm side. Find the total area. Use $\pi \approx 3.14$.

5. A square has side length 10 in., and a circle with diameter 10 in. is cut out. Find the remaining area. Use $\pi \approx 3.14$.

6. A triangle has base 16 m and height 9 m. A semicircle with diameter 16 m is attached to the base. Find the total area. Use $\pi \approx 3.14$.

Check Your Answers

Use each explanation to check the method, not just the final answer.

Day 1 Unit Rates and Proportional Relationships

1. $\frac{9}{2}$ miles per hour, or 4.5 mph
2. $\frac{6}{5}$ cups, or $1\frac{1}{5}$ cups
3. Yes
4. No
5. Unit rate $= 3$; equation $y = 3x$
6. $\$27.50$

Explanations

1. A unit rate asks for the amount in 1 hour, so divide $\frac{3}{4}$ by $\frac{1}{6}$. Multiplying by the reciprocal gives $\frac{3}{4} \times 6 = \frac{18}{4} = \frac{9}{2}$.

2. Divide the oil by the fraction of a batch: $\frac{2}{5} \div \frac{1}{3} = \frac{2}{5} \times 3 = \frac{6}{5}$. This means one whole batch uses $1\frac{1}{5}$ cups.

3. Each ratio $\frac{y}{x}$ equals 4.5: $\frac{9}{2} = 4.5$, $\frac{18}{4} = 4.5$, and $\frac{27}{6} = 4.5$. Since the ratio stays the same, the relationship is proportional.

4. For a proportional relationship, $\frac{y}{x}$ must be constant. Here $\frac{4}{1} = 4$ but $\frac{10}{3} \neq 4$, so the ratios do not match.

5. Use the nonzero point to find $k = \frac{y}{x} = \frac{15}{5} = 3$. A proportional equation has the form $y = kx$, so the equation is $y = 3x$.

6. First find the unit rate: $16.50 \div 6 = 2.75$ dollars per ticket. Then multiply by 10 tickets: $2.75 \times 10 = \$27.50$.

Day 4 Percent Problems and Proportions

1. 84
2. 75
3. 25%
4. 35%
5. 27
6. 30 members

Explanations

1. Convert 35% to 0.35, then multiply by the whole. $0.35 \times 240 = 84$, so the part is 84.
2. Here 45 is the part and the whole is unknown. Divide by the percent as a decimal: $45 \div 0.60 = 75$.
3. Use $\frac{\text{part}}{\text{whole}} = \frac{18}{72} = \frac{1}{4} = 0.25$. Convert 0.25 to 25%.
4. Divide the part by the whole: $\frac{28}{80} = 0.35$. As a percent, $0.35 = 35\%$.
5. Set up $\frac{x}{150} = \frac{18}{100}$. Cross-multiplying gives $100x = 2700$, so $x = 27$.
6. Convert 24% to 0.24 and multiply by the total number of members. $0.24 \times 125 = 30$, so 30 members volunteered.

Day Q1 Week 1 Quiz

1. B
2. Yes
3. $y = 2.75x$
4. False
5. 54
6. 60
7. 16%
8. Store B
9. $(1, 4)$
10. $x = 28$

Explanations

1. Divide $\frac{2}{3}$ by $\frac{1}{4}$, which means multiply by 4. $\frac{2}{3} \times 4 = \frac{8}{3}$ miles per hour, so choice B is correct.
2. Each ratio $\frac{y}{x}$ equals 5. Since the same multiplier connects every x to y, the relationship is proportional.
3. The unit price is $11 \div 4 = \$2.75$ per pound. Total cost equals 2.75 times the number of pounds, so $y = 2.75x$.

4 *A proportional graph must pass through the origin $(0, 0)$. Crossing at $(0, 2)$ means there is an output of 2 when the input is 0, so it is not proportional.*

5 *Convert 30% to 0.30 and multiply by the whole. $0.30 \times 180 = 54$.*

6 *The whole is unknown, so divide the part by the percent as a decimal. $42 \div 0.70 = 60$.*

7 *Use $\frac{24}{150} = 0.16$. Converting 0.16 to a percent gives 16%.*

8 *Store A costs $12.50 \div 5 = \$2.50$ per notebook. Store B costs $19.20 \div 8 = \$2.40$ per notebook, so Store B is lower.*

9 *The constant of proportionality is $k = \frac{28}{7} = 4$. The point where $x = 1$ is $(1, k)$, so the point is $(1, 4)$.*

10 *The proportion represents 35% of 80. Cross-multiply to get $100x = 2800$, so $x = 28$.*

Day 23 Area of Circles and Composite Shapes

1 $78.5\ cm^2$ 2 $254.34\ m^2$ 3 $39.25\ ft^2$ 4 $121.12\ cm^2$ 5 $21.5\ in^2$

6 $172.48\ m^2$

Explanations

1 *Use $A = \pi r^2$. $A = 3.14 \times 5^2 = 3.14 \times 25 = 78.5\ cm^2$.*

2 *The radius is half the diameter, so $r = 9$ m. Then $A = 3.14 \times 9^2 = 3.14 \times 81 = 254.34\ m^2$.*

3 *The radius is 5 ft. A full circle has area $3.14 \times 25 = 78.5$, so the semicircle has half that area: $39.25\ ft^2$.*

4 *The rectangle area is $12 \times 8 = 96$. The semicircle has diameter 8, radius 4, and area $\frac{1}{2}(3.14)(4^2) = 25.12$, so the total is $121.12\ cm^2$.*

5 *The square area is $10^2 = 100$. The circle has radius 5, so its area is $3.14 \times 25 = 78.5$; subtracting gives $100 - 78.5 = 21.5$.*

6 *The triangle area is* $\frac{1}{2}(16)(9) = 72$. *The semicircle has radius* 8 *and area* $\frac{1}{2}(3.14)(64) = 100.48$, *giving total area* 172.48 m^2.

THANK YOU

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