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## Introduction

Math Mammoth Grade 4 Review Workbook is intended to give students a thorough review of fourth grade math. The book has both topical as well as mixed (spiral) review worksheets, and includes both topical tests and a comprehensive end-of-year test. The tests can also be used as review worksheets, instead of tests.

You can use this workbook for various purposes: for summer math practice, to keep the child from forgetting math skills during other break times, to prepare students who are going into fifth grade, or to give fourth grade students extra practice during the school year.

The topics reviewed in this workbook are:

- addition, subtraction, graphs, and algebraic thinking
- large numbers and place value
- multi-digit multiplication
- time and measuring
- division
- geometry
- fractions and decimals

In addition to the topical reviews and tests, the workbook also contains many cumulative (spiral) review pages.

The content for these is taken from Math Mammoth Grade 4 Complete Curriculum, so naturally this workbook works especially well to prepare students for grade 5 in Math Mammoth. However, the content follows a typical study for grade 4, so this workbook can be used no matter which math curriculum you follow.

Please note this book does not contain lessons or instruction for the topics. It is not intended for initial teaching. It also will not work if the student needs to completely re-study these topics (the student has not learned the topics at all). For that purpose, please consider the Math Mammoth Grade 4 Complete Curriculum, which has all the necessary instruction and lessons.

I wish you success with teaching math!
Maria Miller, the author

## Addition, Subtraction, and Algebraic Thinking Test

1. Solve: $2,392+x=5,003$.
2. Calculate in the right order.

| a. $(40+90) \times 2$ | b. $(50-10) \div(5-3)$ | c. $50+10 \times 4-20$ |
| :--- | :--- | :--- |

3. Find the expression that matches the problem below.

What is the change you get if you buy seven light bulbs for $\$ 2$ each, and you pay with $\$ 20$ ?

Lastly, solve the problem.
$7 \times \$ 2-\$ 20$
$(\$ 20-\$ 2) \times 7$
$\$ 20-7 \times \$ 2$
$7 \times \$ 20-\$ 2$
4. Estimate the total cost using rounded numbers.

Do not find the exact cost.
A bicycle helmet, $\$ 28.95$ and TWO flashlights, $\$ 14.25$ each.
5. Edward had three rolls of plastic. The first one was 10 meters long, the second was 2 m shorter, and the third was 5 m longer than the first one. What is the total length of the three rolls of plastic?
6. Mark the numbers and the unknown ( $x$ or ? ) in the bar model. Write an addition or a subtraction with an unknown. Solve it.

A computer program has been discounted by $\$ 48$, and now it costs $\$ 67$. What was the original price?


## Large Numbers and Place Value Review

1. Write the numbers.

| a. 13 thousand 4 ones 9 tens | b. 300 thousand 5 tens 6 thousand | c. 1 million |
| :---: | :---: | :---: |

2. Write the numbers.
a. 785 thousand 3 hundred
b. 70 thousand eight
3. What is the value of the digit 3 in the following numbers?
a. $21 \mathbf{3}, 047$
b. $94,0 \underline{3} 2$
c. $\mathbf{3} 00,049$
d. $9 \underline{3} 2,255$
4. Round these numbers to the nearest thousand and nearest ten thousand.

| $n$ | $\mathbf{7 8 , 9 7 4}$ | $\mathbf{5 , 3 6 7}$ | $\mathbf{2 , 5 5 8}$ | $\mathbf{4 0 7 , 4 0 9}$ | $\mathbf{2 9 9 , 6 0 3}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| rounded to <br> nearest 1,000 |  |  |  |  |  |
| rounded to <br> nearest 10,000 |  |  |  |  |  |

5. First estimate the result of $5,076-2,845-675$ by rounding the numbers to the nearest hundred. Then find the exact answer.

Estimation:
Exact answer:
6. Find the missing numbers.
a. $40,505=5+$ $\qquad$ $+40,000$
b. $796,000=96,000+$ $\qquad$
c. $4,605,506=500+5,000+4,000,000+6+$ $\qquad$
7. Write $<$ or $>$ between the numbers.

| a. 5,406 | 5,604 | b. 49530 | 49553 | c. 605748 | 60584 |
| :--- | :--- | :--- | :--- | :--- | :--- |

8. Write the numbers in order from the smallest to the greatest.
$5,905,544 \quad 95,695 \quad 495,644 \quad 496,455 \quad 145,900 \quad 590,554$
9. Calculate. Line up the digits in the same place carefully.
a. $355,399+2,455+34,200$
b. $490,213-45,344$


10. A banker puts five hundred $\$ 100$-bills in a briefcase.

How much are they worth in dollars?
Write a multiplication.
11. Mark earns $\$ 2,560$ in a month.

How much does he earn in ten months?
How much does he earn in two months?
And lastly, how much does he earn in 12 months?

## Mixed Review 2

1. Add mentally. You can add in parts (tens and ones separately), or use other "tricks."

2. Solve in the correct order.

| a. $(400+200) \times 3=\square$ | b. $10 \times(50+10)=$ <br> $10 \times 50+10=$ <br> $400+200 \times 3=$ <br> c. $6+9 \div 3=$ <br> $80 \div 20 \div 4=\square$ |
| :---: | :---: |
| d. $8 \times(300-200)-300=$ <br> $(70-30) \times 4-20=$ |  |

3. a. Continue this pattern: subtract $\qquad$ each time.

| 700 | 620 | 540 |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |

b. Continue this pattern: add 99 each time, starting at 0

4. Write an addition with an unknown (x). Mark the numbers and the unknown in the bar model. Solve.

A shipment of toy cars contained 1,000 cars. Of them, 450 were SUVs, 128 were vans, and the rest were regular cars. How many regular cars were there?

## Addition:

Solution: $x=$ $\qquad$
5. Add in columns.
a.

|  |  | 9 |  |
| :---: | :---: | :---: | :---: |
|  | 20 | ) 3 |  |
|  |  | 87 |  |
|  | 10 | 1 |  |
|  |  | 0 |  |
| + |  | 2 |  |

b.

| 435 |
| ---: |
| 349 |
|  |
| 20 |
| 1811 |
| 294 |
| 9493 |
| $+\quad 976$ |

c.

| 337 | 0 |  |  |  |
| ---: | ---: | ---: | ---: | ---: |
| 2317 | 6 |  |  |  |
|  | 74 | 63 |  |  |
| 651006 |  |  |  |  |
|  |  | 517 |  |  |
| + |  |  | 9 | 9 |

6. Write the numbers in order from the smallest to the greatest.
a. $18,399 \quad 819,090 \quad 8,030$
818,939
b. $52,200 \quad 5,220 \quad 250,500 \quad 520,500$
7. Write the numbers.
a. 284 thousand 1
b. 50 thousand 50

|  |  |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- |


|  |  | , |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- |

8. What is the value of the underlined digit in the following numbers?
a. $21 \underline{2}, 047$
b. $94,0 \underline{1}^{2}$
c. $\underline{\mathbf{5}} 00,049$
d. $2 \underline{49}, 255$
9. Round the numbers to the nearest hundred.

| a. $7,520 \approx$ | b. $2,712 \approx$ | c. $3,953 \approx$ |
| :--- | :--- | :--- |
| d. $354 \approx$ | e. $56,278 \approx$ | f. $293,596 \approx$ |

10. A tablet device was discounted twice: first by $\$ 30$, then by another $\$ 25$.

Now it costs $\$ 176$. What was the original price?

## Multi-Digit Multiplication Review

1. Multiply.
a. $400 \times 3=$ $\qquad$

$$
9 \times 20=
$$

$\qquad$
b. $70 \times 60=$ $\qquad$
$300 \times 11=$ $\qquad$
c. $90 \times 900=$ $\qquad$

$$
100 \times 400=
$$

$\qquad$
2. Find the missing factors. Think of how many zeros you need.

|  | $\begin{aligned} & \times 50=4,000 \\ & \times 50=350 \end{aligned}$ | b. $70 \times$ | $=280$ | c. | $\times 40=12,000$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | $7 \times$ | $=2,800$ |  | $\times 800=64,000$ |

3. Solve the equations.
a. $4 \times 30=?$
b. $y \times 500=250 \times 4$
c. $450+350=\triangle \times 20$

$$
?=
$$

$\qquad$

$$
y=
$$


$\qquad$
4. Solve this problem using estimation.

If you earn $\$ 515$ weekly, in how many weeks
will you have earned more than $\$ 4,000$ ?
5. Multiply. Estimate the answer on the line.

6. Fill in the table.

| Roses | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Price | $\$ 0.90$ |  |  |  |  |  |  |  |

7. Calculate in the right order.
$2 \times 98-8 \times 17$

|  |  |  |  |  |  |  |  |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
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8. Solve.
a. $(1,500-1,000) \times 4=$ $\qquad$
b. $(76+34) \times 2 \times 0=$ $\qquad$
c. $8 \times 2 \times(3+2)=$ $\qquad$
d. $200 \times(500-400)=$ $\qquad$
9. Draw a rectangle with several parts to illustrate the multiplications. You don't have to draw accurately - a sketch is good enough.
a. $8 \times 24$

$$
=\_^{\times}{ }^{+}+\_^{\times}
$$

$=$ $\qquad$
b.

$$
\times 39
$$

$$
+
$$

$\qquad$
10. Solve. Write a number sentence for each one, not just the answer.
a. A store owner bought 50 boxes of shirts, with 20 shirts in each box, and each shirt costs $\$ 2$. What was his total bill?
$\qquad$
$\qquad$
b. Dad bought 8 boxes of nails for $\$ 2.35$ a box. What was his change from $\$ 20$ ?
$\qquad$
$\qquad$

c. Charlene bought five ice cream cones for $\$ 1.50$ each. Now she has $\$ 12.50$ left.
How much did she have originally?
$\qquad$
$\qquad$

d. A huge roll of wrapping paper costs $\$ 45$
but it was discounted by $\$ 8$.
How much do five rolls cost?

11. Solve the problems. You can use the tables to help.
a. A dog can run three miles in 15 minutes. How far could it run in 10 minutes?

|  |  |
| :--- | :--- |
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|  |  |

b. Seven cans of tuna weigh 420 g. How much would ten cans of tuna weigh?

|  |  |
| :--- | :--- |
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## Division Test

1. Solve.

| a. | b. | c. |
| :---: | :---: | :---: |
| $13 \div 4=$ | $33 \div 7=$ | $40 \div 12=\ldots \mathrm{R}$ |
| $13 \div 5=$ $\qquad$ R $\qquad$ | $45 \div 8=$ | $67 \div 9=\quad \mathrm{R}$ |

2. If seven meters of material costs $\$ 42$, what would five meters of material cost?
3. Jesse had saved $\$ 350$. He spent $\frac{3}{5}$ of that to buy a camera.

How much did the camera cost?
4. José sold $2 / 3$ of his 1,200 bricks to his neighbor.

Then, José sold another 150 bricks.
How many bricks does he have left now?
5. Solve. Check by multiplying.
a. $565 \div 5$
Check:
b. $3,664 \div 8$
Check:

6. Find all the factors of the given numbers.

| a. 28 | b. 13 |
| :--- | :--- |
| factors: | factors: |
| c. 32 | d. 76 |
| factors: | factors: |

7. Joe shared 125 pencils between seven children, as equally as he could.

How many did each get?
How many were left over?
8. Ashley found four different pairs of dress shoes in a store, with prices of $\$ 39, \$ 45$, $\$ 63$, and $\$ 41$. What is their average price?
9. Is 924 divisible by 7? Explain why or why not.
10. Place the numbers 10,20 , and 30 and parentheses into the expression below so that the answer is more than three hundred. Don't forget the parentheses!
$\qquad$ $-$ $\qquad$ $\times$ $\qquad$ $=$ $\qquad$

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## Mixed Review 8

1. a. The beach is 1,200 meters long and $1 / 6$ of that is for boat access. How many meters of the beach are not accessible by boat?

b. Two-thirds of a group of students are girls.

There are 11 boys. How many girls are there?
What is the total number of boys and girls?

2. A baker charted how much he spent on flour from January through May.

Use rounded numbers, and estimate:
a. About how much more did he spend in May than March?
b. About how much did he spend in total for March, April, and May?

3. Solve.

4. Convert.

| a. $1 \mathrm{~kg} 300 \mathrm{~g}=\ldots \mathrm{g}$ | b. $3 \mathrm{lb}=\ldots$ | c. $7,500 \mathrm{~g}=\ldots \ldots \mathrm{kg}$ |
| :---: | :---: | :---: |
| $4 \mathrm{~kg} 20 \mathrm{~g}=\ldots \mathrm{g}$ | $7 \mathrm{lb}=\ldots \mathrm{oz}$ | $4 \mathrm{lb} 8 \mathrm{oz}=\ldots$ |

5. Fill in the tables.

| Minutes | 1 | 5 | 6 | 7 | 10 |
| :--- | :--- | :--- | :--- | :--- | :--- |
| Seconds |  |  |  |  |  |


| Days | 1 | 3 | 6 | 10 |
| :--- | :--- | :--- | :--- | :--- |
| Hours |  |  |  |  |

6. Explain in which order to do the operations in the problem on the right.

$$
(5+39) \div 4-2 \times 2
$$

First do $\qquad$ , which equals $\qquad$ . Then, $\qquad$ that answer by $\qquad$ .

This leaves $\qquad$ . Then, do $\qquad$ $=$ $\qquad$ .

Lastly, $\qquad$ that from $\qquad$ . The answer is $\qquad$ .
7. How much time passes? You can use subtraction.

| a. From 2:42 p.m. till 7:36 p.m. | b. From 3:39 p.m. till 11:03 p.m. | c. From 8:45 till 17:09. |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | h | m | h | m | h | m |
| - | h | m |  | - | h | m |

8. Convert between the measures of volume.

| a. | b. | c. | d. |
| :---: | :---: | :---: | :---: |
| $2 \mathrm{pt}=\ldots \mathrm{C}$ | $1 \mathrm{qt}=\ldots \mathrm{C}$ | $6 \mathrm{~L}=\ldots \mathrm{ml}$ | $2 \mathrm{~L} 560 \mathrm{ml}=\ldots \mathrm{ml}$ |
| $2 \mathrm{C}=\ldots \mathrm{OZ}$ | $2 \mathrm{gal}=\ldots \mathrm{qt}$ | $1 / 4 \mathrm{~L}=\ldots \mathrm{ml}$ | $1,300 \mathrm{ml}=\ldots \quad \mathrm{L} \quad \ldots \quad \mathrm{ml}$ |

9. Answer the questions.
a. What months could you go sledding?
b. Find the three coldest months of the year.
c. What is the difference between April

| Month | Minimum <br> temp. $\left({ }^{\circ} \mathbf{F}\right)$ |
| :---: | :---: |
| Jan | -35 |
| Feb | 25 |
| Mar | 0 |
| Apr | 28 |
| May | 40 |
| Jun | 55 |


| Month | Minimum <br> temp. $\left({ }^{\circ} \mathbf{F}\right)$ |
| :---: | :---: |
| Jul | 65 |
| Aug | 60 |
| Sep | 25 |
| Oct | -4 |
| Nov | -20 |
| Dec | -30 | and July minimum temperatures?

## Geometry Review

1. A farmer has 45 feet of fencing to fence in a chicken yard. He is only using the fencing on three sides of the yard, and the fourth side will be the wall of the chicken house $(10 \mathrm{ft})$.

How long are the sides of the yard?
Side 1:
side 1

side 3

Side 3:
2. Find the area of the shape.

3. Measure the angles.

4. Label each angle as acute, obtuse, or right.

5. Draw an angle that measures $65^{\circ}$.
6. Figure out the unknown angle measure.

7. Draw a line that is perpendicular to this line and goes through the given point.

8. Find the task that is possible to do, and complete it.
a. Draw a rectangle with one $110^{\circ}$ angle.
b. Draw a triangle with one $110^{\circ}$ angle.
c. Draw an acute angle that measures $110^{\circ}$.
9. a. Draw any obtuse triangle.
b. Measure all the angles of your triangle.
10. Draw ONE diagonal (a line from corner to corner) into this square.

You will get two triangles.
What kind of triangles are they?
11. Find rays, lines, and line segments that are either parallel or perpendicular to each other. Use || for parallel and $\perp$ for perpendicular.

12. Draw any parallelogram.

Hint: First, draw a line. Then draw a line that is parallel to that line. Then draw a third line that intersects the other two.
13. Are these figures symmetrical? Draw a symmetry line or lines in the ones that are.
a.

b.

c.




## Decimals Test

1. Mark these decimals on the number line: $\begin{array}{llll}1.60 & 1.21 & 1.78 & 1.04\end{array}$
 $\begin{array}{lllllllllll}1 & 1.1 & 1.2 & 1.3 & 1.4 & 1.5 & 1.6 & 1.7 & 1.8 & 1.9 & 2\end{array}$
2. Write the fractions as decimals and decimals as fractions.

| a. $\frac{2}{10}$ | b. $7 \frac{4}{100}$ | c. $\frac{74}{100}$ | d. 0.52 | e. 3.9 |
| :--- | :--- | :--- | :--- | :--- |

3. Add and subtract.
a. $0.5+1.7=$ $\qquad$
b. $0.44+0.51=$
c. $0.2-0.01=$ $\qquad$
d. $1.6-0.9=$ $\qquad$
e. $0.3+0.07=$ $\qquad$
f. $5.05-2.01=$ $\qquad$
4. Compare. Write $<,>$, or $=$ between the numbers.

| a. $0.4 \square$ | $\square$ | b. 2.9 |
| :--- | :--- | :--- | :--- | :--- | :--- |
| $\square$ |  |  | $2.90 ~$ c. $4.3 \square 4.03 ~$ d. $0.45 \square \frac{1}{2}$ e. $7.18 \square 7.8$

5. Write in order from the smallest to the greatest number: $\begin{array}{llllll}7.2 & 2.7 & 2.07 & 2.17 & 2.77\end{array}$
6. Find the total weight of four books that weigh 1.3 kg each.
7. Calculate.


## Mixed Review 13

1. Write an addition sentence. Give your answer as a mixed number.

2. Multiply.

| a. $10 \times \frac{5}{12}$ | b. $\frac{4}{9} \times 7$ | c. $\frac{14}{100} \times 3$ |
| :--- | :--- | :--- |

3. Find all the factors of the numbers.

| a. 38 | b. 56 | c. 19 |
| :--- | :--- | :--- |
|  |  |  |

4. Multiply. First, estimate the answer on the empty line.

5. Solve the equations.
a. $90 \times \triangle=8,100$
$\Delta=$ $\qquad$
b. $500 \times \underline{?}=2 \times 1,000$
$?=$ $\qquad$
c. $4 \times 3 \times y=360$
$y=$ $\qquad$
6. Change the 24-hour times to the a.m. / p.m. times.

7. Mom promised to pay one-fourth of the price of a new $\$ 95$ bicycle for Terry. Draw a bar model for the situation, and find how much Mom and Terry each paid.
8. Jack has paid $3 / 5$ of the $\$ 600$-computer he bought.

How many dollars does he still have left to pay?
9. Draw as many different symmetry lines as you can into this shape.







10. a. Draw a $35^{\circ}$ angle using $B$ as vertex and $A B$ as one side of the angle. If you do it right, the other side of your angle will intersect (cross) the line segment AC so that you will get a triangle.

b. Measure the third angle of the triangle.

