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Foreword

Math Mammoth Grade 6 Skills Review Workbook has been created to complement the lessons in *Math Mammoth Grade 6* complete curriculum. It gives the students practice in reviewing what they have already studied, so the concepts and skills will become more established in their memory.

These review worksheets are designed to provide a spiral review of the concepts in the curriculum. This means that after a concept or skill has been studied in the main curriculum, it is then reviewed repeatedly over time in several different worksheets of this book.

This book is divided into chapters, according to the corresponding chapters in the *Math Mammoth Grade 6* curriculum. You can choose exactly when to use the worksheets within the chapter, and how many of them to use. Not all students need all of these worksheets to help them keep their math skills fresh, so please vary the amount of worksheets you assign your student(s) according to their needs.

Most of the worksheets are designed to be one page, and include a variety of exercises in a fun way without becoming too long and tedious.

We have created a spreadsheet document that lists the lessons spiraled in each worksheet. This document is included with the digital (download) version. You can also download it at the following link:

https://www.mathmammoth.com/skills_review_workbooks/guides/Skills_Review_Grade6_2022_Edition_Spiraling_Guide.xls

The printed answer key can be purchased separately, or in the digital download version it is included in the zip file.

I wish you success in teaching math!

Maria Miller, the author

Skills Review 1

1. Rewrite the expressions using an exponent, then solve them. You may use a calculator.

a. $7 \times 7 \times 7 \times 7 \times 7 \times 7$

b. $9 \times 9 \times 9 \times 9$

c. 80 squared

d. 60 cubed

2. Divide. There may be a remainder. You can build a multiplication table for the divisor to help you. Lastly, check your result.

$2 \times 39 = 78$	$39\overline{)9\ 4\ 2\ 0\ 6}$	$\times\ 3\ 9$

3. Greenville High School has 5,928 students. One-eighth of the students walk or ride bikes to school, two-thirds ride the bus, and the rest ride to school in cars. What fraction of the students ride to school in cars?

4. Solve. Remember the order of operations!

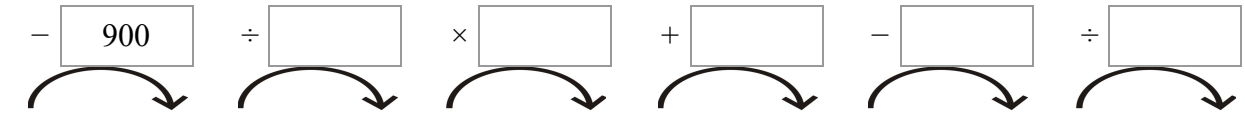
a. $5{,}240 - (80 + 60) \times 30 =$

b. $325 \times 3 + \dfrac{7{,}200}{90} =$

5. Factor this number to its prime factors.

86
/ \

6. Complete. Note that the operation used is not always the same.



Skills Review 2

1. **a.** A train is traveling at 72 miles per hour. Fill in the table:

Miles				72 mi			
Time	10 min	20 min	30 min	1 hour	2 hours	2 ½ hours	3 hours

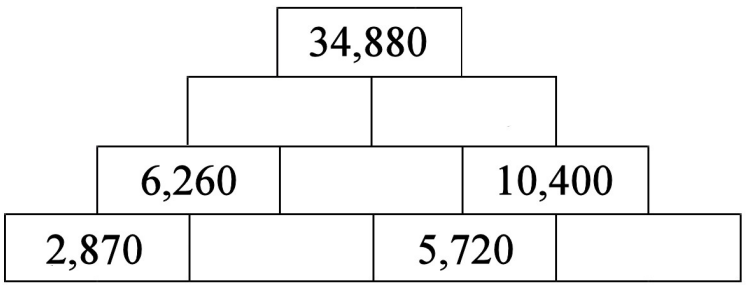
b. If the train travels steadily at 72 miles per hour, how far will it travel in 8 hours?

c. *Estimate* how many *hours* it takes the train to travel 465 miles.

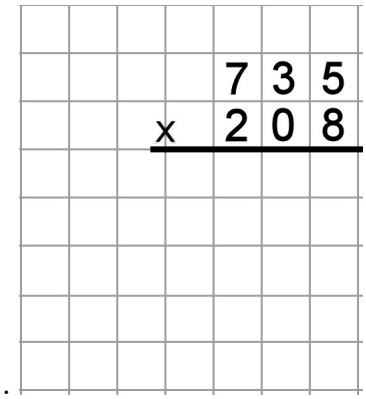
2. Divide. Think: how many times does the divisor go into the dividend?

a. $3.2 \div 0.8 =$ _____	**c.** $0.21 \div 0.03 =$ _____	**e.** $6.3 \div 0.7 =$ _____
b. $0.54 \div 0.06 =$ _____	**d.** $0.015 \div 0.005 =$ _____	**f.** $4.8 \div 0.04 =$ _____

3. Find the missing numbers. The sum of any two adjacent (side-by-side) numbers is the number directly above them.



4. Multiply.



5. Susan bought two gallons of juice. She drank one cup, and then poured the rest into 12 oz bottles. How many *full* bottles of juice did she get?

6. Write in normal form (as a number).

a. $4 \times 10^3 + 7 \times 10^6 + 2 \times 10^0$	**b.** $8 \times 10^5 + 3 \times 10^7 + 9 \times 10^2 + 5 \times 10^4$

Skills Review 3

1. Round to the nearest...

Number	514,372	827,491	36,594,136	7,091,512	4,978,627
...thousand					
...ten thousand					
...hundred thousand					
...million					

2. Compare and write < , > , or = .

a. ten million ☐ 10^7 **b.** 39,000 ☐ 10^5 **c.** 10^8 ☐ a billion

d. $10^7 - 1000$ ☐ 10^6 **e.** $10^5 + 10^3$ ☐ 10^8 **f.** 3×10^4 ☐ 4×10^3

3. Fill in the pattern using a calculator.

$8^1 =$

$8^2 =$

$8^3 =$

$8^4 =$

$8^5 =$

$8^6 =$

4. Divide. Below each division, check your result.

a. $57 \div 9 =$ _____ R ____

____ × ____ + ____ = _____

b. $71 \div 6 =$ _____ R ____

____ × ____ + ____ = _____

5. Express the area (A) as a multiplication, and solve.

a. A square with a side of 8 kilometers:

A = _____

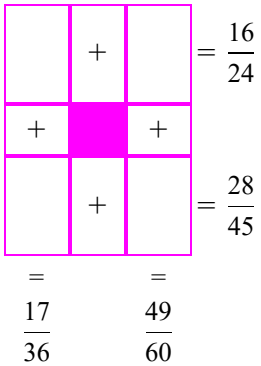
b. A square with sides 11 m long:

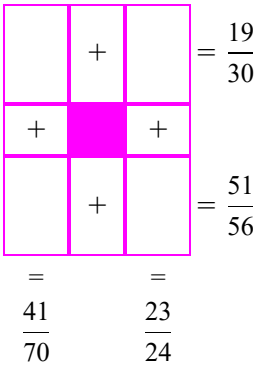
A = _____

Puzzle Corner

Find the fractions that can go into the puzzles.

Hint: If the answer has a denominator of 24, think what the denominators of the two fractions could have been.





Skills Review 4

1. Estimate the result using mental math and rounded numbers. Find the exact value using a calculator. Also, find the error of estimation. In **b.**, round the exact value to two decimal digits.

a. 3,580 × 21,040	**b.** 48,732 ÷ 4,216
Estimation:	Estimation:
Exact:	Exact:
Error of estimation:	Error of estimation:

2. A certain type of fabric costs $7.45 a yard, and another costs 3/5 as much. Brenna has $90. Find out how much Brenna pays if she buys four yards of the more expensive fabric and seven yards of the cheaper fabric.

How much money does Brenna have left after buying the fabric?

Find how much the cheaper fabric costs.
↓
Find the total cost of buying the two fabrics.
↓
Find how much money Brenna has left.

3. Divide. Remember that division can be written using a fraction line as well.

a. $\frac{280}{7}$ = **b.** $\frac{96}{12}$ = **c.** $\frac{3500}{10}$ = **d.** $\frac{760}{20}$ = **e.** $\frac{800}{50}$ =

4. Find the value of these expressions, using paper and pencil methods. Use your notebook for more space.

a. $360 - 7.8 \times 34.2$

b. $896 \div (18.6 + 13.4) - 19.3$

5. Find the missing factors.

a. 0.8 × _____ = 0.72	**b.** 11 × _____ = 9.9	**c.** 0.6 × _____ = 4.2

Skills Review 5

1. Write the measurements in the metric unit charts.

a. 5.46 km

km	hm	dam	m	dm	cm	mm

b. 39.8 dm

km	hm	dam	m	dm	cm	mm

c. Use the chart to do these conversions:

5.46 km = _____ hm = _____ dam = _____ m

39.8 dm = _____ m = _____ dam = _____ hm

2. Rewrite each expression using the fraction line, then solve. *Hint: Only whatever comes right after the ÷ sign needs to be in the denominator.*

a. $56 \div 7 \cdot 6$	**b.** $81 \div (9 \cdot 3) \cdot 12$	**c.** $6 \cdot 8 \div 4 \cdot 5$

3. A building has three rooms. The dimensions of the rooms are 22 ft by 12 ft, 10 ft by 12 ft, and 12 ft by 12 ft. What is the total area of the building?

4. Express the volume (V) as a multiplication, and solve.

a. A cube with edges 7 cm in length: V = _____	**b.** A cube with edges that are all 4 m long: V = _____

5. First convert the fractional parts into like fractions. Then add or subtract.

a. $7\frac{4}{9} - 2\frac{6}{15}$	**b.** $9\frac{7}{12} + 14\frac{3}{8}$

Skills Review 6

1. Find a number that fits in place of the unknown.

a. $x \div 80 = 70$

b. $30 \cdot M = 2{,}700$

2. Fill in the missing numbers in these equivalent fractions and mixed numbers.

a. $3\frac{6}{9} = 3\frac{2}{\square}$

b. $\frac{6}{10} = \frac{\square}{60}$

c. $\frac{4}{5} = \frac{12}{\square}$

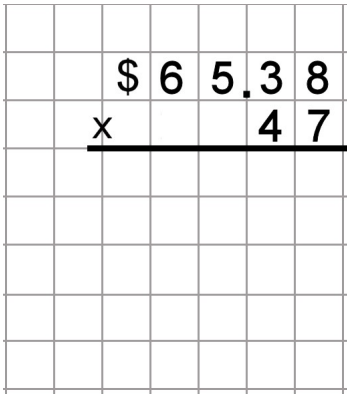
d. $4\frac{1}{4} = \square\frac{7}{\square}$

3. Continue the patterns for six more numbers.

a. 2,780,000; 2,820,000; 2,860,000;

b. 923,752; 923,452; 923,152;

4. Multiply.



5. From the top, find your way through the maze by coloring factors of 84. You can move right, left, down, or diagonally down.

9	14	13	16
42	44	32	27
12	18	41	22
5	21	11	17
15	7	8	26
36	28	40	33
24	10	3	29

6. During a five-day workweek, Mia receives *about* 90 e-mails per day, Damian receives 2/3 as many as Mia, and Stella receives 3/4 as many as Damian.

a. *About* how many e-mails do they receive in three weeks?

b. If they work 49 weeks in a year, *about* how many e-mails do they receive during that time?

7. Evaluate the expressions when the value of the variable is given.

a. $3x + 26$ when $x = 9$

b. $\frac{32}{z} \cdot 15$ when $z = 8$

Skills Review 7

1. Fill in the table, calculating the sum, difference, product and quotient of the numbers.

numbers	sum	difference	product	quotient
a. 60 and 4				
b. 8 and 5				

2. Solve. Use a notebook if necessary. Also, a flowchart showing the steps of the solution may help.

Mariah bought three lamps for $42 each that had been discounted by 1/3 of their price. Shelly bought three lamps for $45 each that had been discounted by 2/5 of their price.

a. Find the original prices of the two different kinds of lamps.

b. Who saved more money overall?

How much more?

3. It costs $57 an hour to rent a personal watercraft. Kyle rents one for three hours twice a month. *Estimate* how much he will spend on rental fees in a year.

4. Divide. Check your answer by multiplying.

a. $44\overline{)9\ 5\ 4\ 8}$	$\times$ _____	**b.** $60\overline{)2\ 6.2\ 8}$	$\times$ _____

Skills Review 8

1. **a.** The area of a square is 81 cm^2. What is its perimeter?

   b. The volume of a cube is 125 cubic inches. How long is its (one) edge?

2. Multiply. You can use estimation to check if your answers are reasonable.

a. $3\frac{1}{4} \cdot 1\frac{4}{5}$	**b.** $1\frac{3}{5} \cdot 3\frac{1}{3}$

3. Find the value of these expressions.

a. $\frac{17+4}{5+2}$	**b.** $70 + 81 \div 9 \cdot 30 - 45$	**c.** $\frac{6^2}{3} + 5^3$

4. Write an expression for each scenario.

   a. The product of 40 and s, subtracted from 1,500.

   b. The sum of 69 and y divided by 8.

5. Find the value of the expressions you wrote in exercise 2 when ...

   a. ... the variable s has the value 20.

   b. ... the variable y has the value 43.

6. Solve using mental math.

a. $40 \cdot 70 - 20 \cdot 60$ =
b. $800 \div 5 - 300 \div 10$ =
c. $58 + 73 + 96$ =
d. $300 \div 6 \cdot 400 \div 8$ =