

Math Mammoth End of the Year Test - Grade 3

This test is quite long, so I do not recommend to have your child/student to do it in one sitting. Break it into parts and administer them either on consecutive days, or perhaps on morning/evening/morning. Use your judgment.

This is to be used as a diagnostic test. Thus, you may even skip those areas and concepts that you already know for sure your student has mastered.

The test does not cover every single concept that is covered in the *Math Mammoth Grade 3 Complete Worktext*, but all the major concepts and ideas are tested here. This test is evaluating the child's ability in the following content areas:

- multiplication concept and tables
- division concept and facts
- mental addition and subtraction strategies
- the order of operations
- place value with four-digit numbers
- adding and subtracting four-digit numbers
- parallel lines, right angles, perimeter, and area
- basic usage of measuring units
- clock to the minute and elapsed time calculations
- coins, bills, and basic money calculations
- basic word problems
- the concept of a fraction

Note 1: problems #2 and #3 are done orally and timed. Let the student see the problems. Read each problem aloud, and wait a maximum of 5-6 seconds for an answer. Mark the problem as right or wrong according to the student's (oral) answer. Mark it wrong if there is no answer. Then you can move on to the next problem.

You do not have to mention to the student that the problems are timed or that he/she will have 5-6 seconds per answer, because the idea here is not to create extra pressure by the fact it is timed, but simply to check if the student has the facts memorized (quick recall). You can say for example (vary as needed):

"I will ask you some multiplication and division and subtraction questions. Try to answer me as quickly as possible. In each question, I will only wait a little while for you to answer, and if you don't say anything, I will move on to the next problem. So just try your best to answer the questions as quickly as you can."

In order to continue with the Math Mammoth Grade 4 Complete Worktext, I recommend that the child gain a score of 80% on this test, and that the teacher or parent review with him any content areas that are found weak. Children scoring between 70 and 80% may also continue with grade 4, depending on the types of errors (careless errors or not remembering something, vs. lack of understanding). The most important content areas to master are the multiplication tables and the word problems, because of the level of logical reasoning needed in them. Again, use your judgment.

Grading

My suggestion for grading is below. The total is 166 points. A score of 133 points is 80%.

Grading on question 1 (the multiplication tables grid): There are 169 empty squares to fill in the table, and the completed table is worth 17 points. Count how many of the answers the student gets right, divide that by 10, and round to the nearest whole point. For example: a student gets 24 right. $24/10 = 2.4$, which rounded becomes 2 points. Or, a student gets 85 right. $85/10 = 8.5$, which rounds to 9 points.

Question	Max. points	Student score
1	17 points	
2	16 points	
3	16 points	
4	6 points	
5	6 points	
6	6 points	
7	2 points	
8	2 points	
9	3 points	
10	2 points	
11	2 points	
12	2 points	
13	2 points	
14	3 points	
15	3 points	
16	2 points	
17	2 points	
18	3 points	
19	8 points	
20	4 points	

Question	Max. points	Student score
21	4 points	
22	4 points	
23	2 points	
24	6 points	
25	3 points	
26	2 points	
27	2 points	
28	6 points	
29	3 points	
30	2 points	
31	6 points	
32	3 points	
33	2 points	
34	2 points	
35	3 points	
36	3 points	
37	4 points	
38	3 points	

End of the Year Test - Grade 3

1. Your first problem will be to fill in the complete multiplication table.
You have 12 minutes to fill it in completely.

×	0	1	2	3	4	5	6	7	8	9	10	11	12
0													
1													
2													
3													
4													
5													
6													
7													
8													
9													
10													
11													
12													

In problems 2 and 3, your teacher will read you multiplication and division questions. Try to answer them as quickly as possible. In each question, he/she will only wait a little while for you to answer, and if you don't say anything, your teacher will move on to the next problem. So just try your best to answer the questions as quickly as you can.

2. Multiply.

a.	b.	c.	d.
$2 \times 7 = \underline{\hspace{2cm}}$	$7 \times 4 = \underline{\hspace{2cm}}$	$3 \times 3 = \underline{\hspace{2cm}}$	$7 \times 8 = \underline{\hspace{2cm}}$
$8 \times 3 = \underline{\hspace{2cm}}$	$5 \times 8 = \underline{\hspace{2cm}}$	$4 \times 4 = \underline{\hspace{2cm}}$	$6 \times 5 = \underline{\hspace{2cm}}$
$5 \times 5 = \underline{\hspace{2cm}}$	$3 \times 9 = \underline{\hspace{2cm}}$	$7 \times 7 = \underline{\hspace{2cm}}$	$8 \times 6 = \underline{\hspace{2cm}}$
$9 \times 4 = \underline{\hspace{2cm}}$	$5 \times 7 = \underline{\hspace{2cm}}$	$4 \times 8 = \underline{\hspace{2cm}}$	$6 \times 9 = \underline{\hspace{2cm}}$

3. Divide.

a.	b.	c.	d.
$21 \div 3 = \underline{\hspace{2cm}}$	$32 \div 4 = \underline{\hspace{2cm}}$	$45 \div 5 = \underline{\hspace{2cm}}$	$50 \div 5 = \underline{\hspace{2cm}}$
$35 \div 7 = \underline{\hspace{2cm}}$	$40 \div 8 = \underline{\hspace{2cm}}$	$28 \div 4 = \underline{\hspace{2cm}}$	$72 \div 9 = \underline{\hspace{2cm}}$
$48 \div 6 = \underline{\hspace{2cm}}$	$66 \div 6 = \underline{\hspace{2cm}}$	$36 \div 9 = \underline{\hspace{2cm}}$	$18 \div 6 = \underline{\hspace{2cm}}$
$49 \div 7 = \underline{\hspace{2cm}}$	$56 \div 8 = \underline{\hspace{2cm}}$	$63 \div 7 = \underline{\hspace{2cm}}$	$27 \div 9 = \underline{\hspace{2cm}}$

4. a. Write 300 as a sum in three different ways.

b. Write 30 as a difference in three different ways.

5. Add mentally.

a. $242 + 70 = \underline{\hspace{2cm}}$ $99 + 78 = \underline{\hspace{2cm}}$	b. $540 + 80 = \underline{\hspace{2cm}}$ $335 + 99 = \underline{\hspace{2cm}}$	c. $59 + 89 = \underline{\hspace{2cm}}$ $46 + 34 = \underline{\hspace{2cm}}$
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6. Subtract mentally.

a. $100 - 67 = \underline{\hspace{2cm}}$ $73 - 68 = \underline{\hspace{2cm}}$	b. $650 - 99 = \underline{\hspace{2cm}}$ $54 - 19 = \underline{\hspace{2cm}}$	c. $52 - 37 = \underline{\hspace{2cm}}$ $400 - 37 = \underline{\hspace{2cm}}$
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7. Jason bought a \$165 camera and a \$32 camera bag.
What was his change from \$500?

8. A family is driving 300 miles from their hometown to Grandma's place.
10 miles before the half-way point they stopped to have lunch.
How many miles do they still have to go?

9. A store received a shipment of 700 light bulbs,
packaged with 8 light bulbs in each box.
After selling 8 boxes, how many bulbs were left?

10. Solve $535 - (430 - 170)$.

11. Find the missing number: $\underline{\hspace{2cm}} - 339 = 935$

12. Draw a picture to illustrate
the multiplication $3 \times 4 = 12$.

13. Write as an addition and solve: 5×25 .

14. Solve.

a. $24 + 8 \times 3$	b. $2 \times 5 + 14 \times 1$	c. $66 - 5 \times 5$
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15. Write a multiplication sentence to solve how many legs these animals have altogether.

a. seven horses

b. five ducks





c. eight horses and six ducks

16. Each table in a restaurant seats four people. How many tables do you need to reserve for a company of 31 people?

17. A cafeteria menu had spaghetti with meatballs for \$8 and bean soup for \$6. How much would it cost to buy three plates of spaghetti with meatballs and three bowls of bean soup?

18. A pencil case costs \$2.35. If Mark buys as many as he can with his \$10, what will his change be?

19. Write the time the clock shows, and the time 10 minutes later.

				
	a. _____ : _____	b. _____ : _____	c. _____ : _____	d. _____ : _____
10 min. later	_____ : _____	_____ : _____	_____ : _____	_____ : _____

20. a. The TV show starts at 6:25 PM and ends at 7:10 PM.
How long is it?

b. Mr. Jackson's plane takes off at 9:30 PM. If the flight lasts for 6 hours 20 minutes, when will the plane land?

21. Compare and write $<$, $>$, or $=$.

a. $6,000 + 3 + 40$ $400 + 60 + 3,000$

b. $7,000 - 2,600$ $6,500 - 1,800$

c. $2 + 900 + 7,000$ $90 + 7,000 + 200$

d. $2,500 + 800$ $5,000 - 1,700$

22. Add and subtract. First, estimate the result by rounding the numbers to the nearest hundred.

a. $3,782 + 2,255$
Estimate:

b. $8,149 - 4,888$
Estimate:

23. Draw a perpendicular line to the given line that goes through the point.
Use a tool - do not "eyeball" it.



24. **a.** Draw here any right triangle.

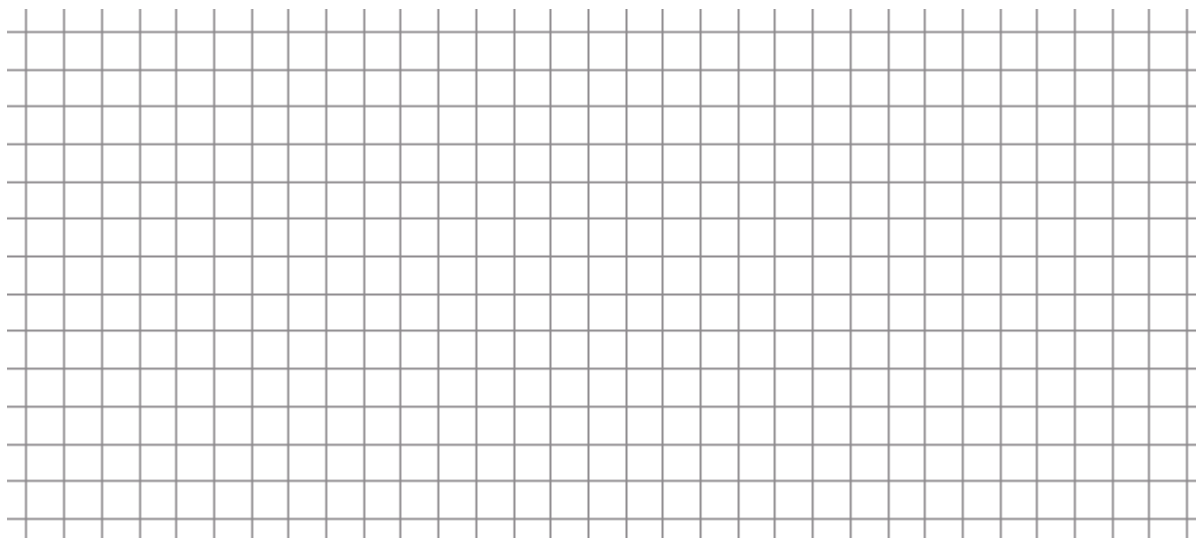
b. Measure its sides using
a centimeter-millimeter ruler.

25. Draw in the grid below:

a. a rectangle with an area of 15 square units

b. a square with an area 16 square units

c. a rectangle with a perimeter of 10 units.



26. Find the perimeter of a rectangle, if its one side
measures 5 in. and another side $6\frac{1}{2}$ in.

27. Draw here lines:

a. $6\frac{1}{4}$ inch long

b. $2\frac{3}{4}$ inch long

28. Convert between the different measuring units.

a.	b.	c.
625 cm = ___ m _____ cm	32 oz = ___ lb _____ oz	46 oz = ___ C _____ oz
3 ft 11 in. = _____ in	2 kg 80 g = _____ g	5 L 750 ml = _____ ml

29. Is there more than a quart in four 12-ounce servings of juice?

If yes, how much more than a quart is there?

If not, how much less than a quart is there?

30. Write two multiplications and two divisions for the same picture.



$$\underline{\quad} \times \underline{\quad} = \underline{\quad}$$

$$\underline{\quad} \div \underline{\quad} = \underline{\quad}$$

$$\underline{\quad} \times \underline{\quad} = \underline{\quad}$$

$$\underline{\quad} \div \underline{\quad} = \underline{\quad}$$

31. Divide, but CROSS OUT all the problems that are impossible!

a. $17 \div 1 = \underline{\quad}$	b. $17 \div 17 = \underline{\quad}$	c. $1 \div 1 = \underline{\quad}$
$17 \div 0 = \underline{\quad}$	$0 \div 0 = \underline{\quad}$	$0 \div 1 = \underline{\quad}$

32. Divide.

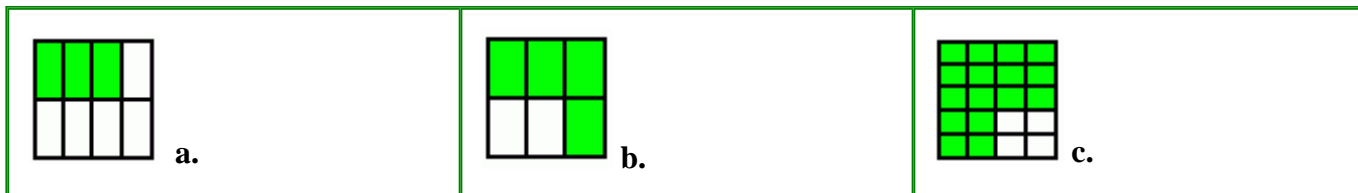
a. $17 \div 2 = \underline{\quad}$, R $\underline{\quad}$ b. $24 \div 5 = \underline{\quad}$, R $\underline{\quad}$ c. $47 \div 7 = \underline{\quad}$, R $\underline{\quad}$

33. A team leader divided a group of 19 kids into three teams, as evenly as possible.
How many kids are on team 1, team 2, and team 3?

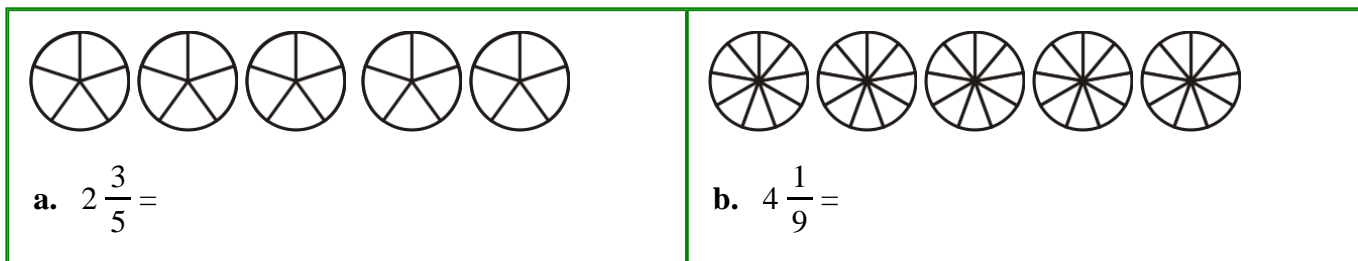
34. Dad and his three children decided to buy a \$75 gift for mom.
Dad paid \$54 and the children shared the remaining cost equally.
How much did each child pay?

35. Two neighbors shared (unequally) the cost of a new, \$120 fence.
One neighbor paid for $\frac{1}{4}$ of it. How much did the one neighbor pay?
How much did the other neighbor pay?

36. Write the fraction.



37. Shade parts to show the mixed number. Then write the mixed number as a fraction.



38. Add and subtract.

a. $\frac{8}{10} - \frac{5}{10} =$	b. $\frac{15}{7} - \frac{9}{7} =$	c. $\frac{2}{10} + \frac{5}{10} + \frac{3}{10} =$
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