

# 3<sup>rd</sup> Grade Math Competition

## General Information

Calculators will **not** be allowed during any part of the 3<sup>rd</sup> grade competition.

All answers for individual or group competition must include units where units are used in the problem (a.m., p.m., hours, inches, feet, dollars, cents, boxes, gallons, etc.)

Notations used in competition problems:

- Multiplication will be written as “x” or “\*”
- Division will be written as “÷” or “/”
- Cents can be written as \$0.25 or 25¢ or 25 cents
- Dollars can be written as \$10 or \$10.00 or 10 dollars

## Individual Competition

The individual competition will be divided up into 4 rounds of 5 questions each. Each round will be designed to increase slightly in difficulty.

Individual competition questions will test proficiency and accuracy in the following areas. Sample problems are provided as examples. However, the actual competition may include other forms of questions that demonstrate proficiency of that topic area, including word problems. Multiple areas may also be combined into single problems.

1. Read and write whole numbers. Know whole number placeholder values.
2. Apply the correct operation for the terms sum, difference, and product.
3. Round whole numbers.
4. Compare, add, and subtract whole numbers.
5. Multiply and divide whole numbers by factors of 10.
6. Multiply and divide whole numbers by numbers in the fact family.
7. Identify even, odd, and prime numbers. Identify perfect squares.
8. Complete sequences of whole numbers and identify function rules.
9. Compare and order whole numbers and fractions.
10. Demonstrate comprehension of relationship of fractional parts to a whole.
11. Write tenths and hundredths using common fractions, decimals, or percents.
12. Use estimation, rounding, or logical thinking to help solve a problem faster.
13. Identify the number of inches in a foot and in a yard, feet in a yard, centimeters in a meter, minutes in an hour, and hours in a day.
14. Compute whole number distances between points on a number line.
15. Count, compare, add, and subtract money amounts.
16. Identify the properties of a rectangle and square. Determine length, width, perimeter, and area of a rectangle.
17. Identify lines of symmetry in geometric shapes.
18. Identify patterns of transformations of objects: rotation and reflection.
19. Compute elapsed time from a start and end time, including a.m. and p.m. times.
20. Determine the likelihood of an event.

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## Sample Individual Competition Questions

1. Write the number sixty-three thousand, two hundred four. Answer: 63,204
2. The sum of two numbers is 12 and their product is 20. What are the two numbers? Answer: 10 and 2
3. Use  $<$ ,  $=$ , or  $>$  to fill in the blank.  
 $28 + 97 + 132$  \_\_\_  $15 + 88 + 127$  Answer:  $>$
4.  $1200 \div 10 =$  \_\_\_\_ Answer: 120
5. What number goes in the blank?  
 $56 =$  \_\_\_\_  $\times 7$  Answer: 8
6. Which number is both odd and prime?  
15, 24, 27, 31, 36 Answer: 31
7. What number comes next?  
99, 90, 81, \_\_\_\_ Answer: 72
8. How many one fourths are in two? Answer: 8
9. What percent of the pie is left over if Sarah ate \_\_\_ of the pie? Answer: 75%
10. How much money will you spend if you buy something with 2 quarters, 3 dimes, 2 nickels, and 3 pennies? Answer: \$0.93 or 93¢
11. Jimmy left for school at 7:45 a.m. He got home at 4:00 p.m. How long was Jimmy away from home? Answer: 8 hours and 15 minutes
12. A bag has 4 marbles inside. Two marbles are red. One marble is white and one marble is yellow. If you reach into the bag and draw out one marble, what color marble are you more likely to pick? Answer: red

## Group Competition

The group competition will consist of 5 team questions. Each of the five questions will be designed to be similar in difficulty.

Group competition questions will test the team's ability to solve longer, more complex problems involving multiple topic areas. Group questions may also require creative thinking, splitting the work into tasks that can be divided among the teammates, and logical thinking. If the first attempt is incorrect, teams will have an opportunity for a second chance to answer each group question.

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## Sample Group Competition Questions:

1. There were 4 boys and 2 girls in line for ice cream: John, Sue, Barb, Dave, Tom, and Andy. Sue was in third place in line. Tom was two places behind Sue. A boy was in last place. Andy was four places ahead of John. The girls were together in line. Who was first in line?

Answer: Dave

2. Mary had been earning \$4.25 an hour. This week she got a raise to \$4.50 an hour. She works 40 hours each week. How much more money will she make this week than she made last week?

Answer: \$10

3. Find the rule that tells you what to do with the number in Column A to get the number in Column B. Use the rule to write the missing number in the box.

| A  | B                    |
|----|----------------------|
| 1  | 3                    |
| 2  | 6                    |
| 5  | 15                   |
| 9  | 27                   |
| 25 | <input type="text"/> |

Answer: 75

4. Mrs. Banks is planning a trip to Birmingham. It is 220 miles from her house to Birmingham. If she drives 55 miles per hour, how many hours of driving will she have for the round trip to and from Birmingham?

Answer: 8 hours

5. Dan is three years younger than Brenda. Bob is twice Dan's age. If Brenda is 7, how old is Bob?

Answer: 8 years old

6. Jesse paid \$3.00 for 6 donuts. How many dollars would Jesse pay for 3 dozen donuts?

Answer: \$18