

2011 Orange County Math Circle All-Girls Tournament
Grade 3 - 4 Individual Round

Name: _____

School: _____

Grade: _____

1. There are 40 questions on this test. You are given an hour to complete all 40 questions. Ideally, how many seconds will you spend on each question?
2. $2 + 3 + 4 + \dots + 11 =$
3. $\frac{1}{16} + \frac{1}{8} + \frac{1}{4} + \frac{1}{2} =$ How many sixteenths?
4. Tatiana texts at 36 words per minute. If she texts for 10 minutes a day, how many words does she text in a week?
5. $2 \times 4 \times 8 = 2 \times (?)$
6. The math club has more members than the book club and fewer members than the art club. The science club has more members than the math club but fewer members than the art club. Which club has the most members?
7. Alina, Beatrice, and Catherine each ate a piece of pie. Alina ate 25% of it, Beatrice ate $\frac{1}{12}$ of it, and Catherine ate 0.45 of it. Who ate the most pie?
8. Sarina is making a fruit smoothie out of raspberries, strawberries, blueberries, blackberries. If she puts a total of 48 berries and an equal number of each berry in the smoothie, how many raspberries did she put in?
9. After Shelby's mom bakes 2 dozen cookies, Shelby eats 6 cookies and shares the rest with her friends. Marina eats $\frac{1}{6}$ of the cookies after Shelby, and Michel eats $\frac{1}{3}$ of what is left. How many cookies are remaining after Michel eats?
10. 16 more than 5 is $\frac{1}{4}$ of what number?
11. 3 days ago was 5 days after last Tuesday. What day is it?
12. A box can hold 5 layers of books. If the bottom layer has 6 books, how many books can be laid in the box?
13. Micayla walks 1200 meters from home to school. After school, she walks 550 meters from school to the ice cream shop with her friends, returns to the school, and then walks home. How many meters did she walk in all?
14. What is the greatest common factor of 12, 18, and 21?
15. The sum of the degrees of the interior angles of a triangle always equals 180° . If a triangle contains a right angle, what is the sum of the other two angles?
16. $3(11 + 11) \div 6 - 2 + 3 \times 4 =$

2011 Orange County Math Circle All-Girls Tournament
Grade 3 - 4 Individual Round

17. There were 40 baby monkeys at the zoo. If half of them are taken to a different zoo and 5 monkeys escaped but 8 new monkey babies were born, how many monkeys are there now?
18. Find the 7th term in this sequence: 2, 3, 5, 8, __, __, ?
19. Sarah has 12 apples and 3 times as many oranges. How many fruits does she have?
20. It is said that a picture is worth a thousand words. It is also claimed that words are a dime each. Assuming this is true, what is the dollar value of a picture?
21. A piece of string 30 cm long is cut in half. Then, each of these pieces is cut into thirds. How long is one piece of string?
22. Two dozen pairs of hands is how many hands?
23. Pacman ate 12 ghosts. If he ate $\frac{1}{5}$ of all ghosts, how many ghosts were there in total?
24. How many inches are in two yards?
25. $2009 + 2010 + 2011 + 2012 + 2013 =$
26. Each bag of candy contains 32 candies. If I have 10 bags, how many candies do I have?
27. 96,140 is NOT divisible by which one of the following?
28. In place of the \clubsuit , which operation makes the following equation true?
 $36 \clubsuit 18 = 27 \clubsuit 9$
29. The angles of a triangle can be all of the following angles except a(n)
30. A chef prepared a total of 5200 shrimp this week. If there are 20 shrimp on each platter, how many platters did the chef prepare this week?

2011 Orange County Math Circle All-Girls Tournament
Grade 3 - 4 Individual Round

31. A jar has 5 ladybugs with 2 dots, 6 lady bugs with 3 dots, 7 ladybugs with 4 dots and 8 ladybugs with 6 dots. What is the probability that I will pull out a ladybug with 3 dots?

32. A swimming pool is 18 feet long and 15 feet wide. If it is 12 feet deep, what is the volume of the pool?

33. Jordan has a magical growing eraser that is 6 cm long. Each day she uses up 1 cm of it, and at the end of each day half of what she uses automatically grows back. How many days does it take before she uses up half of the eraser, before the end of the day?

34. I have 33 note cards. After every 3 blue note cards, there is one white note card. How many white note cards do I have, if the first note card is white?

35. I want to order an ice cream. The toppings I can choose from are almonds and sprinkles. If the flavors of ice cream I can choose from are Cookies & Cream, mint chocolate chip, and strawberry, how many different combinations of ice cream orders can I order?

36. In elementary school, $\frac{6}{7}$ of girls carry backpacks instead of purses. In middle school, $\frac{5}{8}$ of girls carry purses instead of backpacks. What fraction less of girls carry backpacks in middle school than in elementary school?

2011 Orange County Math Circle All-Girls Tournament
Grade 3 - 4 Individual Round

37. Dale has twice as many coins as Cathy. When Dale gives Cathy 2 coins, they each have the same number. How many coins does Dale have?

38. As I walk home, I pass 20 streetlights. The distance between each streetlight is 10 feet. If I start walking from the 1st streetlight and stop walking at the 20th streetlight, how far is my walk home?

39. Annie and Beatrice are sisters, both under the age of fifteen. Next year, Beatrice will be double the age of Annie. How old is Annie this year?

40. How many rectangles are in the following figure?


