

2010 Orange County Math Circle All-Girls Tournament

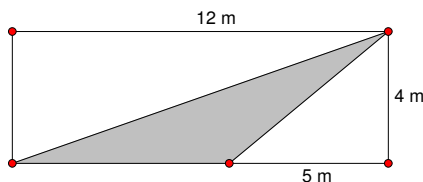
Grade 5 - 6 Sprint Round

Name: _____

School: _____

Grade: _____

1. Which of the following is a common factor of 35 and 42?
 (A) 4 (B) 5 (C) 6 (D) 7
2. Kelly, Kayla, Katrina, Katie, Kiana, and Katherine stand in a circle, each with six dolls. After each girl passes one doll to the girl on the right and one doll to the girl on the left, each girl will have
 (A) 2 dolls (B) 4 dolls (C) 6 dolls (D) 12 dolls
3. How many positive primes have remainder 0 when divided by 2?
 (A) 0 (B) 1 (C) 2 (D) 7
4. What is the product of the number of days in a week and the number of months in a year?
 (A) 5 (B) 19 (C) 60 (D) 84
5. If today is Sunday, then 2 days before yesterday was
 (A) Thursday (B) Friday (C) Saturday (D) Sunday
6. Each of the following is an even number except
 (A) $977 + 111$ (B) $282 + 828$ (C) $189 + 891$ (D) $949 + 494$
7. What is the area of the unshaded part of the rectangle?



- (A) 14 m^2 (B) 20 m^2 (C) 24 m^2 (D) 34 m^2
8. Which of the following numbers leaves a remainder of 1 when divided by 4?
 (A) 37 (B) 35 (C) 31 (D) 27
9. Lisa wears red hat. Elle and Sheen wear green hats. Arielle, Rhiannon, and Ainsley wear blue hats. The six girls came to the math tournaments together. How many of them could truthfully say *I have the same hat color as one or more of the other girls*.
 (A) 3 (B) 4 (C) 5 (D) 6
10. If Madison and Danielle have been good friends for five and one-half years, they have been good friends for (?) months.
 (A) 60 (B) 66 (C) 70 (D) 72
11. Jocelyn can buy 5 candy bars for 60 cents. How much would it cost her for 10 candy bars?
 (A) 12 cents (B) \$1.20 (C) \$2.00 (D) \$3.00

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12. Angela must be in school by 8 AM. If Angela leaves her home at 7:21 AM, she has (?) minutes to get to school on time.
(A) 21 (B) 29 (C) 39 (D) 79
13. If the sum of two consecutive odd numbers is 1000, what is the smaller of the two numbers?
(A) 1 (B) 499 (C) 500 (D) 999
14. When a certain number is divided by 10, the quotient is 99 and the remainder is 9. What was the original number?
(A) 11 (B) 90 (C) 108 (D) 999
15. A whole number is greater than 20 and less than 2000. What is the smallest possible value of the sum of all of its digits?
(A) 0 (B) 1 (C) 2 (D) 3
16. The width of a rectangle is 6 cm. If the length is twice the width, find the area of the rectangle.
(A) 12 cm² (B) 36 cm² (C) 60 cm² (D) 72 cm²
17. A bus left Irvine with some passengers on it. At Laguna Niguel, $\frac{1}{8}$ of the passengers got off and 7 new passengers boarded it. There were now 63 passengers on board the bus. How many passengers were on the bus when it left the Irvine station?
(A) 49 (B) 56 (C) 64 (D) 72
18. Bubble gum comes in packs of 5 pieces of gum. Darei wants to buy bubble gum for herself and her 7 friends, so that each person can have at least two pieces of bubble gum. To do this, what is the least number of packs Darei must buy?
(A) 3 (B) 4 (C) 5 (D) 6
19. The product of all even whole numbers less than 10 is
(A) 0 (B) 364 (C) 384 (D) 3,840
20. Halfway up a hill, 4 girls stopped to pick berries. Payton picked 76 blackberries, Sophie picked 54 raspberries, Isabella picked 32 strawberries, and Nicole picked 1 gigantic blueberry. How many berries did the girls pick altogether?
(A) 153 (B) 161 (C) 163 (D) 165
21. Mia has a chicken farm in her backyard. If her chicken lays 5 eggs each week, how many weeks would it take her to collect 15 dozen eggs?
(A) 18 (B) 36 (C) 60 (D) 180
22. If the length of each side of a rectangle is an odd number, then the perimeter of the rectangle could be
(A) 15 (B) 17 (C) 19 (D) 20

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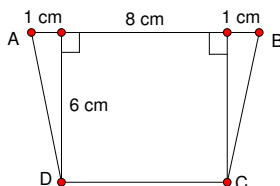
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23. In the following figure, AB is parallel to CD . What is the area of $ABCD$?



- (A) 72 cm^2 (B) 64 cm^2 (C) 54 cm^2 (D) 48 cm^2
24. Which of the following is divisible by 15?
 (A) 35×8 (B) 36×9 (C) 39×10 (D) 40×11
25. Nikita and Hanna each pick a whole number between 1 and 2000. If the difference between their number is 10, which of the following may be the sum of their numbers?
 (A) 2005 (B) 2010 (C) 2015 (D) It cannot be determined
26. Of 30 students, 12 play violin, 17 play piano, and 5 play both. How many play neither?
 (A) 1 (B) 4 (C) 6 (D) 11
27. A bag contains 2 red, 2 blue, and 2 green stickers. Emily takes one sticker at a time from this bag without looking. What is the least number of stickers Emily must take from this bag to be sure that she has taken 2 stickers of the same color?
 (A) 2 (B) 3 (C) 4 (D) 6
28. Chelsea paints twice as fast as Rachelle. If it took Rachelle 6 hours to paint a room, how long would it have taken if both had painted the room together?
 (A) 2 hours (B) 3 hours (C) 9 hours (D) 18 hours
29. Joyce is 100 m from Elisa and Joanne is 80 m from Elisa. They both ran at the same time directly toward Elisa. If Joyce ran twice as fast as Joanne, how far from Elisa was Joanne when Joyce reached Elisa?
 (A) 20 m (B) 30 m (C) 40 m (D) 50 m
30. If the pattern of the first 6 letters in $STANNESTANNESTANNE\dots$ continues, then the pattern's 500th letter is
 (A) S (B) T (C) A (D) N