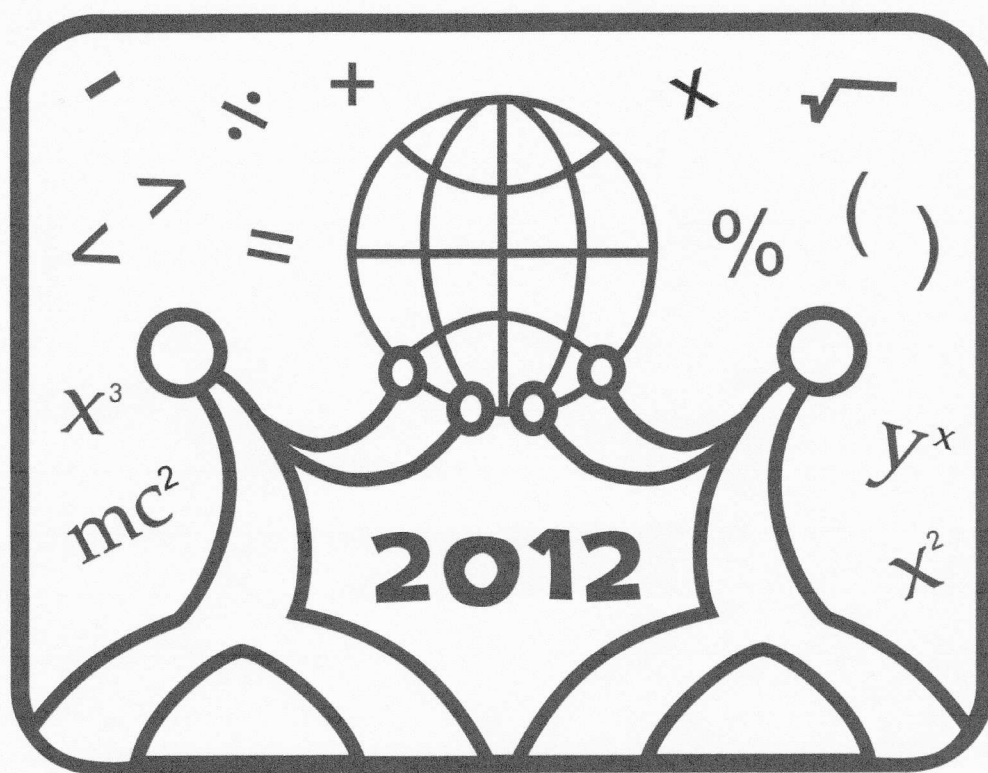


School Name _____

MATHLETES CHALLENGE



Round 2 (2nd Half)

1. According to the chart, what is the **best** estimate of the number of jobs in North Carolina?

Jobs in North Carolina

Manufacturing	735,500
Sales	335,000
Government	271,100
Services	228,900
Farming	157,800
Building	99,100
Public Utilities	98,300
Other Jobs	79,400

- A about two hundred thousand
- B about two million
- C about two million, five hundred thousand
- D about twenty million
2. Mr. Gibbon's horse eats an average of 24 cups of dry food a day. **About** how many quarts of dry food would his horse eat in a month?
- A less than 200
- B between 200 and 400
- C between 400 and 600
- D more than 600

3. The students at Scott Middle School are collecting cans for recycling. On average, the school collects 34 cans a day. At this rate, how many cans will the school have collected at the end of 180 days?
- A 6,188
- B 6,120
- C 5,888
- D 5,460
4. It costs \$250 for each person to attend Camp Hiawatha. If 15 boys and 10 girls attended the camp, how much money did the camp receive?
- A \$2,500
- B \$3,750
- C \$6,250
- D \$8,750
5. If a truck can move 8,775 pounds of dirt in one trip, how much dirt can be moved in 225 trips?
- A 78,975
- B 393,875
- C 1,970,325
- D 1,974,375

6. Kyle made a factor tree for 48 and found that the prime factorization was $2 \times 3 \times 2 \times 2 \times 2$. Which of the following shows the correct use of exponents for this prime factorization?

A $2 \times 3 \times 2 \times 2$
B $3^2 \times 2^3 \times 2$
C 6×2^3
D 3×2^4

7. Which number must be placed in the box in order for this to be a true statement?

$$16 = 2^{\square}$$

A 1
B 2
C 3
D 4

8. At a dinner for several people, four cakes were cut and served. Each cake was cut into four pieces and then each piece was cut into four slices. How can the number of pieces of cake be written in exponential form?

A $4 + 4 + 4$
B 4^2
C 4^3
D 3^4

9. Which of the following is equal to $3^2 \times 2^3$?

A $3 \times 3 \times 2 \times 2$
B $3 \times 3 \times 2 \times 2 \times 2$
C $3 \times 2 \times 2 \times 3$
D $(3+2) \times (2+3)$

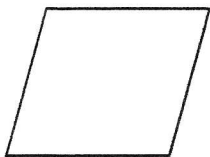
10. Heather wants to plant her flowers with the same number in each row. Which flowers can be planted into *exactly* 12 rows?

Plants Received

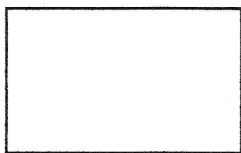
Flower	Total From Order
geraniums	348
marigolds	356
pansies	280
violets	212

A geraniums
B marigolds
C pansies
D violets

11. Which statement correctly compares this parallelogram and this rectangle?



Parallelogram



Rectangle

- A Both figures are polygons with pairs of opposite sides parallel.
- B Both figures are polygons with four right angles.
- C Both figures are polygons whose interior angles total 180 degrees.
- D Both figures are polygons with at least two acute angles.

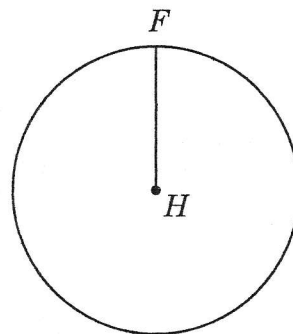
12. Jill wants to make a triangular base pyramid out of marshmallows and toothpicks. She will use a marshmallow for a vertex and a toothpick for an edge. How many marshmallows and toothpicks will she need?

- A 4 marshmallows and 8 toothpicks
- B 4 marshmallows and 6 toothpicks
- C 5 marshmallows and 8 toothpicks
- D 5 marshmallows and 7 toothpicks

13. If Tanya is drawing a circle with the opening of the compass set at 3 inches, how can she find the diameter of her circle?

- A She can use the compass setting as the diameter.
- B She can multiply 3 inches by 2.
- C She can add 3 inches to 2 inches.
- D She can divide 3 inches by 2.

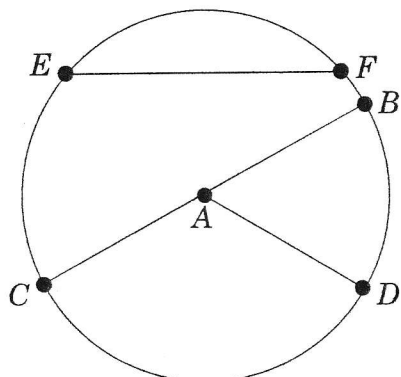
14. Diane is making a sundial.



If radius FH is 7 cm, what is the length of the longest chord in circle H ?

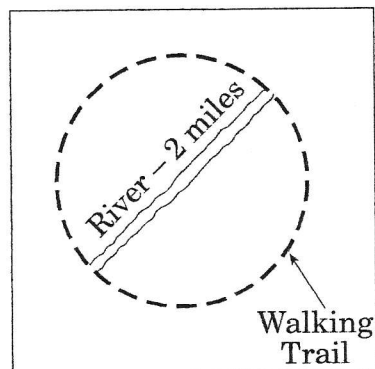
- A 7 cm
- B 9 cm
- C 14 cm
- D 21 cm

15. What statement is true about circle A below?



- A The distance from E to F is the same as the distance from B to C .
- B The distance from E to F is the same as the distance from A to D .
- C The distance from B to C is half the distance from A to B .
- D The distance from B to C is twice the distance from A to D .

16. The town council wants to have a circular walking trail around the park.



About how long will the whole walking trail be?

- A 2 miles
- B 6 miles
- C 8 miles
- D 12 miles

17. Which word problem matches this equation?

$$3 \times \Delta + 2 = 11$$

- A Mariah ate two slices of pizza and drank three cups of water. If she spent \$11, how much did one slice of pizza cost?
- B Shannon chopped three onions in order to make 11 servings of onion rings. How much onion was used for one serving?
- C Beth swam for three hours on Saturday and two hours on Sunday. If she swims two hours each day, how many more days will it take her to swim a total of 11 hours?
- D Hilary washed pickup trucks for \$3 each and cars for \$2 each. If she earned \$11 in one morning, and washed only one car, how many pickup trucks did she wash?
18. If the greatest common factor (GCF) of s and r is 1 and the GCF of r and t is 4, then which of the following **must** be true?
- A r is even.
- B t is odd.
- C $r + s$ is even.
- D $s \times t$ is odd.

19. Karla learned that 9, 25, and 64 are square numbers. Which set below contains only square numbers?

- A $\{0, 2, 4\}$
- B $\{6, 10, 18\}$
- C $\{16, 36, 81\}$
- D $\{20, 49, 100\}$

20. Shannon began her book by reading five pages the first day, eight pages the second day, eleven pages the third day, 14 pages the fourth day, and so on. How many pages will she read on the twelfth day if she continues this pattern?

- A 35 pages
- B 38 pages
- C 41 pages
- D 44 pages

Mathematics Reference Sheet

Grade 5

Use the information below, as needed, to answer questions on the Mathematics test.

Square	Rectangle	Triangle
Area = $s \times s$ Perimeter = $4 \times s$	Area = $l \times w$ Perimeter = $(2 \times l) + (2 \times w)$	Perimeter = $a + b + c$

1 foot = 12 inches

1 yard = 3 feet

1 mile = 5,280 feet

1 cup = 8 ounces (oz)

1 pint = 2 cups

1 quart = 2 pints

1 gallon = 4 quarts

1 kilogram = 1000 grams

1 meter = 100 centimeters

1 centimeter = 10 millimeters

1 kilometer = 1000 meters

1 liter = 1000 milliliters

1 pound (lb) = 16 ounces (oz)

Mathletes Challenge 2012 Round 2 (2nd Half)

Name: _____

1. ☐ A ☐ B ☐ C ☐ D
2. ☐ A ☐ B ☐ C ☐ D
3. ☐ A ☐ B ☐ C ☐ D
4. ☐ A ☐ B ☐ C ☐ D
5. ☐ A ☐ B ☐ C ☐ D
6. ☐ A ☐ B ☐ C ☐ D
7. ☐ A ☐ B ☐ C ☐ D
8. ☐ A ☐ B ☐ C ☐ D
9. ☐ A ☐ B ☐ C ☐ D
10. ☐ A ☐ B ☐ C ☐ D
11. ☐ A ☐ B ☐ C ☐ D
12. ☐ A ☐ B ☐ C ☐ D
13. ☐ A ☐ B ☐ C ☐ D
14. ☐ A ☐ B ☐ C ☐ D
15. ☐ A ☐ B ☐ C ☐ D
16. ☐ A ☐ B ☐ C ☐ D
17. ☐ A ☐ B ☐ C ☐ D
18. ☐ A ☐ B ☐ C ☐ D
19. ☐ A ☐ B ☐ C ☐ D
20. ☐ A ☐ B ☐ C ☐ D

Mathletes Challenge 2012 Round 2 (2nd Half)Name: KEY

1. ☐ A ☒ B ☐ C ☐ D
2. ☒ A ☐ B ☐ C ☐ D
3. ☐ A ☒ B ☐ C ☐ D
4. ☐ A ☐ B ☒ C ☐ D
5. ☐ A ☐ B ☐ C ☒ D
6. ☐ A ☐ B ☐ C ☒ D
7. ☐ A ☐ B ☐ C ☒ D
8. ☐ A ☐ B ☒ C ☐ D
9. ☐ A ☒ B ☐ C ☐ D
10. ☒ A ☐ B ☐ C ☐ D
11. ☒ A ☐ B ☐ C ☐ D
12. ☐ A ☒ B ☐ C ☐ D
13. ☐ A ☒ B ☐ C ☐ D
14. ☐ A ☐ B ☒ C ☐ D
15. ☐ A ☐ B ☐ C ☒ D
16. ☐ A ☒ B ☐ C ☐ D
17. ☐ A ☐ B ☐ C ☒ D
18. ☒ A ☐ B ☐ C ☐ D
19. ☐ A ☐ B ☒ C ☐ D
20. ☐ A ☒ B ☐ C ☐ D