TEST #1

Rock Bridge High School
Mu Alpha Theta

6th Annual

MARCH MATHNESS

Saturday, March 19, 2022

Full Name _____

School _____

Grade (circle one):   4th grade   5th grade   other

Instructions

1. DO NOT BEGIN UNTIL YOUR PROCTOR INSTRUCTS YOU TO DO SO.
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1. 538 + 45 + 3 = ___ + 73
   A. 567
   B. 513
   C. 493
   D. 504

2. What is (1.4+1 ½) *0.8?
   A. 2.32
   B. 2.33
   C. 2.48
   D. 2.36

3. All of the following numbers are evenly divisible by 4 except:
   A. 3840
   B. 48
   C. 1612
   D. 1285

4. Kanye has a rectangular pig pen in his farm that is 12 yards long and 5 yards wide. In order to meet regulations, his pig pen needs to have a perimeter of at least 100 feet. Does his pig pen meet regulation, and if so, what is the perimeter and how much bigger is it then regulation?

   A. It is smaller than regulation
   B. Yes, 180 feet, 80 feet bigger than regulation
   C. Yes, 102 feet, 2 feet bigger than regulation
   D. Yes, 540 feet, 440 feet bigger than regulation

5. What is the product of 5 * 4 * 3 * 2 * 1 (more commonly written as 5!)?
   A. 5
   B. 50
   C. 11
   D. 120

6. What is 7% of 2?
   A. 3.5
   B. 7
   C. 2.5
   D. 0.14

7. Elena has 120 apples and 20 baskets. If the apples are evenly placed in each basket, how many apples are in each basket?

    A. 5
    B. 6
    C. 10
    D. Not enough information

8. A rectangular prism is 8in x 9in x 4in. What is the volume of the prism?
    A. 21 in^2
    B. 288 in^2
    C. 21 in^3
    D. 288 in^3

9. Simplify this fraction: 15/20.
    A. 10/15
    B. 3/4
    C. 8/5
    D. 5/10

10. What is 48.75643 rounded to the hundredths place?
    A. 48. 8
    B. 48.76
    C. 48.756
    D. 48.75

11. What is the greatest common factor between the numbers 24, 40, 60
    A. 4
    B. 2
    C. 6
    D. 3

12. Multiply: 25 x 24
    A. 600
    B. 49
    C. 1
    D. 550

13. Which of these is NOT a prime number? A prime number is a number which can only be divided by itself and 1.
    A. 7
    B. 13
    C. 22
    D. 31

14. What is 2/5 + 5/7?
    A. 39/35
    B. 37/35
    C. 38/35
    D. 7/12

15. There are 2 red marbles, 5 blue marbles, and 7 yellow marbles in a bag. When you pick a marble out of the bag, what is the probability of choosing a red or yellow marble?
    A. 4/7
    B. 9/14
    C. 12/14
    D. 1/2

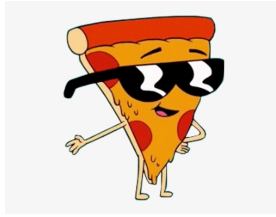16. When multiplied by 10 and then divided by 2, a number becomes 25. Which number is this?
    A. 2
    B. 3
    C. 5
    D. 10

17. Tim wants to learn to figure skate. He is going to pour water in his yard and let it freeze to try and make an ice rink. If his yard is a 22ft by 5 ft rectangle, how many square feet of water does he need to fill the surface area?

    A. 1010
    B. 270
    C. 110
    D. 54

18. A pizza was ordered for a pizza party. If the pizza is cut into 8 equal slices and 3 people eat two slices each, what fraction of the pizza is left (what fraction of the pizza hasn't been eaten yet)? **Simplify your answer.**

  A. 1/4
  B. 5/8
  C. 1/3
  D. 2/8

19. A cake has a length of 5 inches, a width of 2 inches, and a height of 8 inches. What is the volume of the box?
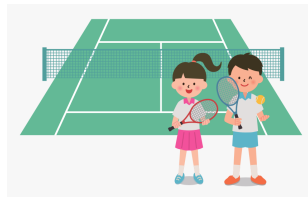

  A. 50 in^3
  B. 20 in^2
  C. 80 in^3
  D. 100 in^2

20. 390 x 25 = ?
  A. 3760
  B. 9750
  C. 9230
  D. 6320

21. There are 258 students in a grade. Every student is involved in up to two school activities: soccer and tennis. If 45 students participate only in tennis and 64 students only play soccer, how many students participate in both activities if all students participate in at least one event?

  A. 149
  B. 213
  C. 194
  D. 258

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22. At the start of the day you had a bag of 17 lollipops. You and your brother both had one before school. You already told your friend you would give him 3 of them. You offered a lollipop to all 7 of your teachers but only 4 of them accepted. Then on the way home you and another friend both had a lollipop. How many lollipops do you have left at the end of the day?

    A. 3 lollipops
    B. 4 lollipops
    C. 6 lollipops
    D. 8 lollipops

23. Kenny wants to go to the beach with his mother. His mother gets off work at 4:30, and the drive home is 7 minutes long. Then he and his mother must get ready which takes about 10 minutes, and then drive to the beach which is around 4 minutes away. If the beach closes at 7 and Kenny and his mother plan to stay there until it closes, how much time will they spend at the beach?

    A. 1 hour and 51 minutes
    B. 2 hours and 9 minutes
    C. 2 hours and 21 minutes
    D. 3 hours

24. Which of these inequalities is true?
    A. $5*12<70$
    B. $0 * -10 +1 < 0$
    C. $-5*-5 < -20$
    D. $60/12 > 9$

25. Mr. Beast is shopping and wants to eat 4 car batteries for dinner to achieve his goal of eating more iron-rich food. Each car battery costs $2.50. How much in total does he have to pay?

    A. $9.50
    B. $8
    C. $10
    D. $15.5

TEST #2

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1. The ratio of Twix to Oreos is 5:2. If there are 24 Oreos, how many Twix are there?
- A. 5
- B. 60
- C. 40
- D. 72

2. The dimensions of an XBox are 5cm x 15cm x 30 cm. What is the volume of an XBox, assuming that it is shaped like a rectangular box?
- A. 2005cm^3
- B. 1115cm^3
- C. 5325cm^3
- D. 2250cm^3

3. Seven time Superbowl champion, Tom Brady can throw a football 8,000 times in 8 hours. How many footballs can he throw in 24 hours?

- A. 8,000
- B. 28,000
- C. 24,000
- D. 10,000

4. Maria likes to read every day. She spends twice as much time reading as she does doing her homework each day. If she spent a total of 3 hours and 44 minutes reading last week, how much time did she spend doing her homework each day last week?

- A. 32
- B. 64
- C. 16
- D. 12

5. Lucy has 402 pop-its. She wants to give each of her 23 classmates an equal amount of pop-its and wants to keep at least 70 to herself. How many pop-its do each of her classmates get, and how many does she keep?

   A. Each classmate gets 17, Lucy gets 70
   B. Each classmate gets 14, Lucy gets 70
   C. Each Classmate gets 17, Lucy gets 81
   D. Each Classmate gets 14, Lucy gets 80

6. Rectangle A has a length of 10cm and width of 5cm. Rectangle B's shortest side is 15cm and it has the same ratio of sides as Rectangle A. Find the area of Rectangle B.
   A. 450 cm^2
   B. 512 cm^2
   C. 435 cm^2
   D. 346 cm^2

7. If a bag has 7 red marbles and 3 green marbles, what is the probability that you randomly draw a red marble and then a green marble?
   A. 7/30
   B. 21/100
   C. 10/21
   D. 7/10

8. A car drives away from you in a straight line at 60 miles per hour. How far away is the car after 10 minutes?

   A. 6 miles
   B. 10 miles
   C. 16 miles
   D. 60 miles

9. The greatest whole-number multiple of 7 that is less than 200 is
   A. 191
   B. 193
   C. 196
   D. 198

10. If Robin had $50 how much money does she have left after going and buying groceries?

Grocery name	Price	Quantity
Carrot	55¢/lb	7 pounds
Steak	$12.50/ lb	2 pounds
Potatoes	75¢/lb	10 pounds

    A. $36.35
    B. $13.65
    C. $19
    D. $36.2

11. If Cal's lunch cost $40.60 and he left a 20% tip, what is his final amount?
    A. $51.15
    B. $48.72
    C. $50.00
    D. $42.84

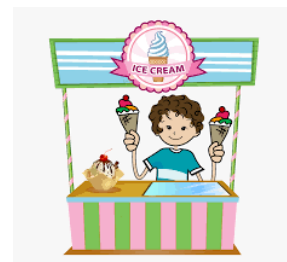12. Solve using proper order of operations: 25 + 30 / 5 - 2(30)
    A. 270
    B. -28
    C. 265
    D. -29

13. What is 1.5% of 400?
    A. 1.5
    B. 6
    C. 8
    D. 15

14. Jessie works at an ice cream shop and makes $10 an hour. She works 4 hours on Sunday. However, it was hot that day, so she spent $15 of the money she made from work on ice cream. How much money does she have at the end of the day?

    A. $40
    B. $-5
    C. $25
    D. $10

15. Molly is having a birthday party and invited 9 people. Her mom made 30 cupcakes so everyone could have three. Then 5 beluga whales came unexpectedly to join the party. If each person (or whale) gets the same amount of cupcakes, how many will each person get?

    A. 3
    B. 2
    C. 1
    D. 4

16. The school has 240 girls and 260 boys, what is the ratio of the girls to the total number of students?
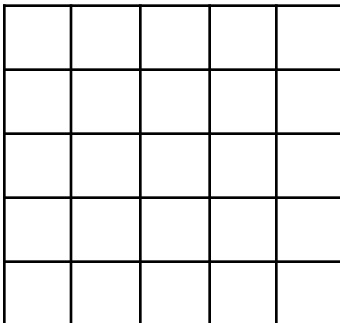   A. 14:30
    B. 12:42
    C. 15:36
    D. 12:25

17. Jamie and her brother love to eat chips. Once a week her parents go to the store to buy them chips. How many bags of chips do her parents have to buy to get through the week if Jamie eats ⅙ of a bag and her brother eats ⅓ of a bag every day?

    A. 1
    B. 3
    C. 4
    D. 6

18. How many squares of any size are there in the image below?

    A. 54
    B. 55
    C. 25
    D. 62

19. Andy, Thomas, Lochlan, and Charlie all took hikes on different trails that day. They all said they traveled the furthest. If the following information is true, who actually went the furthest and how far did they go?

-Charlie went went as far as Andy and Thomas combined
-You were with Lochlan so you know she traveled 9 miles
-Thomas traveled twice as far as Andy
-Andy says he traveled 5 miles less than Lochlan

A. Charlie went the furthest and he traveled 12 miles
B. Charlie went the furthest and he traveled 17 miles
C. Thomas went the furthest and he traveled 17 miles
D. Thomas went the furthest and he traveled 12 miles

20. 275 x 4 = 100 + 5 * (157 + ___)
A. 43
B. 215
C. 88.6
D. 168.6

21. In preparation for his annual "Pi Day Tea Bash," Earl buys various decorations and food items. He buys 48 paper plates, 36 tea bags, 6 pies, and 132 vanilla wafers. He then divides each pie into 10 equal slices. If each person, including him, receives equal amounts of each item, what is the biggest number of people he can invite?

A. 9
B. 10
C. 11
D. 12

22. Compute 7+9+11+...+53+55.
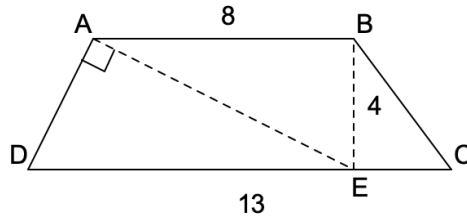A. 245
B. 480
C. 878
D. 775

23. Robby the Rabbit and Tammy the Turtle are racing each other. 30 minutes into the race, Robby decides to take a nap underneath a shady tree while Tammy is still 4 miles behind him. When he wakes up three hours later, he realizes that Robby is 2 miles ahead of him. Considering that Tammy remains at the same speed throughout the race, how fast should Robby run after he wakes up to tie in the race?

A. 8/3 mi/hr
B. 3 mi/hr
C. 10/3 mi/hr
D. 16/5 mi/hr

24. A trapezoid ABCD is drawn such that AB = 8 and CD = 13. A point E is placed on CD such that BE = 4, <BED=90˚, and <DAE=90˚, as shown in the figure below. What is BC?

A. 5
B. 5√3
C. 6√3
D. 7

25. Evaluate the expression: -5^2
A. -25
B. -10
C. 25
D. 15