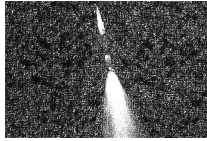


Thirty-Fifth Annual Sixth Grade Math Blast

Stage One

Directions:

- 1 . Use a #2 pencil.
 - 2 . Scratch paper may be used. You may write on this test.
 - 3 . Put your NAME and SCHOOL on the Scantron answer sheet
 - 4 . Transfer answers to Scantron carefully; be sure to make your marks dark and erasures clean.
 - 5 . There is no penalty for guessing.
 - 6 . All fractions are to be simplified.
 - 7 . Use 3.14 for π .
 - 8 . All money should be rounded to the nearest penny.
-



1. Which of the following numbers is the largest?

- a. $-4\frac{4}{9}$
- b. -5.46
- c. $-5\frac{9}{20}$
- d. -5.4
- e. None of These

2. The ice cream store averages \$2.70 for each ice cream cone sold. Ice cream cone sales for the month of May totaled \$30,126.60. How many ice cream cones were sold in May?

- a. 111.58
- b. 1115.88
- c. 11158
- d. 111580
- e. None of These

3. There were $1\frac{3}{4}$ pizzas leftover after the party. Sam and Don ate $\frac{1}{2}$ of the leftover pizzas. How much is left now?

- a. $\frac{7}{8}$
- b. $\frac{3}{4}$
- c. $\frac{7}{2}$
- d. $\frac{2}{3}$
- e. None of These

4. Which fraction is undefined?

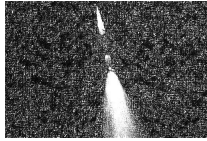
- a. $\frac{197}{8}$
- b. $\frac{6}{21}$
- c. $\frac{13}{0}$
- d. $23\frac{1}{5}$
- e. None of These

5. Evaluate: $4 + 4 \div 2 + 6 \cdot 4^2$

- a. 160
- b. 102
- c. 582
- d. 54
- e. None of These

6. Write the following ratio as a unit-less fraction in lowest terms: 3 feet to 60 inches

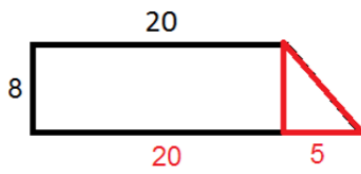
- a. $\frac{1}{20}$
- b. $\frac{3}{60}$
- c. $\frac{3}{5}$
- d. $\frac{1}{240}$
- e. None of These



7. If you spend 5.5 hours a week studying for English and 4 hours studying for math what is the ratio of time spent studying in math to studying for English.

- a. 8:11
- b. 11:8
- c. 55:2
- d. 2:55
- e. None of These

8. Find the area of the figure below.



- a. 160 square units
- b. 180 square units
- c. 200 square units
- d. 53 square units
- e. None of These

9. Find the least common multiple (LCM) of 24, 36, and 54.

- a. 6
- b. 12
- c. 360
- d. 720
- e. None of These

10. Simplify. $0.8 \div \frac{1}{3} \cdot \frac{1}{3}$

- a. $\frac{4}{5}$
- b. $\frac{4}{45}$
- c. 7.2
- d. 2.4
- e. None of These

11. How many minutes are in the month of March?

- a. 744
- b. 43,200
- c. 44,640
- d. 46,500
- e. None of These

12. Write the phrase, "six less than the quotient of a number, n, and four," as a mathematical expression.

- a. $6 - \frac{4}{n}$
- b. $\frac{4}{n} - 6$
- c. $6 - \frac{n}{4}$
- d. $\frac{n}{4} - 6$
- e. None of These



13. Determine the length of the side of a square with the given area of 1.44 square feet.

- a. 0.36 *feet*
- b. 1.2 *feet*
- c. 0.72 *feet*
- d. 2.0736 *feet*
- e. None of These

14. What is the median of the following set of data? {53.9, 67.1, 40.2, 67.1, 48}

- a. 40.2
- b. 48
- c. 53.9
- d. 67.1
- e. None of These

15. Find the value of the expression:

$$6 \div 2 + (4 - 2)^2$$

- a. 7
- b. 3
- c. 1
- d. 25
- e. None of These

16. $\frac{5}{8}$ of Mary's seashell collection is 1,240 seashells. How many seashells does she have?

- a. 155 seashells
- b. 310 seashells
- c. 992 seashells
- d. 1984 seashells
- e. None of These

17. A wire 16 cm long is cut into two pieces. The long piece is 4 cm longer than the shorter piece. Find the length of the shorter piece of wire.

- a. 6 cm
- b. 8 cm
- c. 10 cm
- d. 12 cm
- e. None of These

18. A diver starts out at 273 feet below the surface. She then swims upward 154 feet. What is the diver's current location?

- a. 119 *feet*
- b. 427 *feet*
- c. -119 *feet*
- d. -427 *feet*
- e. None of These



19. Simplify: $\frac{2}{5} + \frac{2}{7} \cdot \frac{1}{7}$

- a. $\frac{2}{27}$
- b. $\frac{19}{35}$
- c. $\frac{108}{245}$
- d. $\frac{24}{245}$
- e. None of These

20. Consider a rectangle with a width of 10ft and a length of 24ft. What is the ratio of length to width?

- a. 12:5
- b. 5:12
- c. 1:2
- d. 2:3
- e. None of These

21. What is the least common multiple of 36 and 45?

- a. 360
- b. 180
- c. 1,620
- d. 92
- e. None of These

22. How many odd numbers are there between 20 and 88?

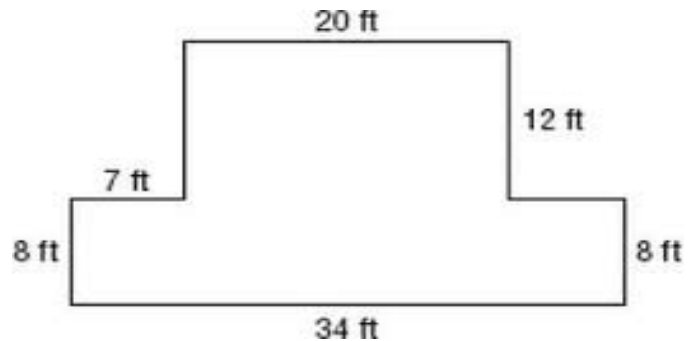
- a. 33
- b. 44
- c. 35
- d. 34
- e. None of These

23. Calculate the mean of the data below.

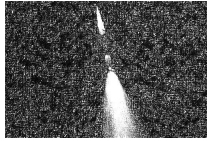
{20,23,25,28,30}

- a. 23.5
- b. 23.2
- c. 25
- d. 116
- e. None of These

24. What is the area of the shape below?



- a. 253 ft²
- b. 352 ft²
- c. 512 ft²
- d. 108 ft²
- e. None of These



25. This morning the temperature was 5° below zero. By noon, the temperature rose 20° Fahrenheit (F) and then dropped 8° F by evening. What was the evening temperature?
- 17° below zero
 - 15° below zero
 - 12° below zero
 - 7° below zero
 - None of These
26. It takes a machine 16 minutes to fill 200 bottles of soda. At this rate, how many minutes will it take the machine to fill 500 bottles of soda?
- 30
 - 40
 - 32
 - 25
 - None of These
27. David sold mugs at a crafts show. On the first day, he sold 8 mugs but lost \$5.40 on each mug. On the second day, he raised his price and sold 10 mugs with a profit of \$4.20 on each mug. What was his total profit or loss?
- \$85.20
 - \$43.20
 - \$1.00
 - \$1.20
 - None of These
28. Compute: $3.364 + 2.79 + 1.005 + 4.8 + 4.05 + 0.001$?
- 5.062
 - 14
 - 15.910
 - 14.910
 - None of These
29. A rectangular room is $17\frac{3}{4}$ feet wide and 8 feet long. Find the perimeter of the room.
- 51.50 ft.
 - 142 ft.
 - 71
 - 32
 - None of These
30. Evaluate $2[7 + 2(3 \cdot 5 - 10)]$
- 34
 - 43
 - 90
 - 54
 - None of These



31. The speed of sound is approximately 768 miles per hour. When an object travels faster than the speed of sound, it creates a sonic boom.

Write an inequality that is true only for speeds(s) at which a moving object creates a sonic boom.

- a. $S < 768$
- b. $S > 768$
- c. $S \leq 768$
- d. $S \geq 768$
- e. None of These

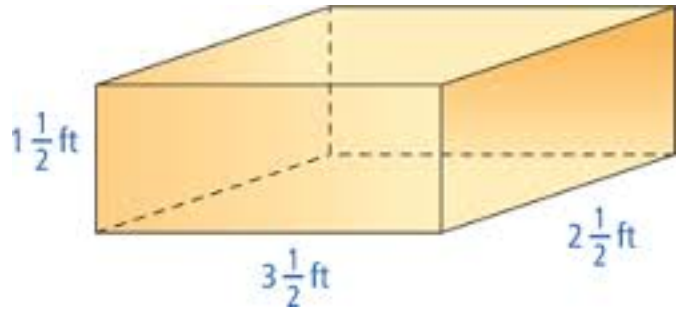
32. $(\frac{1}{7} + \frac{1}{4}) \div \frac{9}{28} =$

- a. $\frac{9}{11}$
- b. $\frac{11}{9}$
- c. $\frac{99}{784}$
- d. $\frac{11}{28}$
- e. None of These

33. Evaluate $5c + cd$ when $c = \frac{1}{5}$ $d = 15$

- a. 5
- b. 4
- c. 1
- d. 6
- e. None of These

34. What is the volume of the box below?



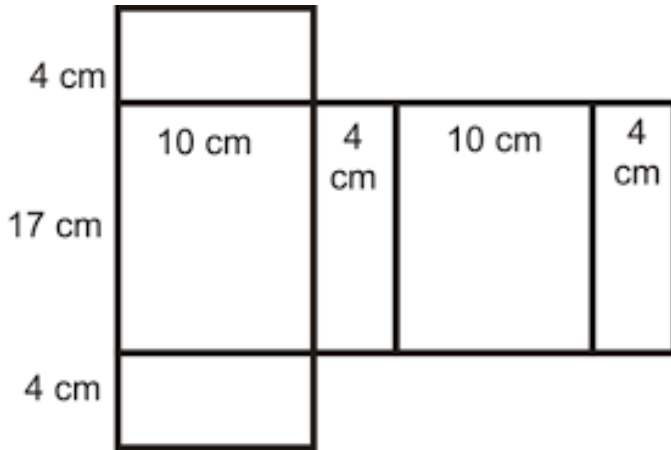
- a. 13.125 *cu. ft*
- b. 8.448 *cu.ft.*
- c. 7.5 *cu. ft.*
- d. 131.25 *cu. ft.*
- e. None of These

35. You measure a suitcase to be 20 inches wide, 2 feet long and 5 inches deep. What is the volume of the suitcase?

- a. 2,000 in^3
- b. 200 in^3
- c. 2,000 in
- d. 200 in
- e. None of These



36. Using the net find the surface area of the shape below.



- a. $53cm^2$
- b. $556 cm^2$
- c. $655 cm^2$
- d. $160cm^2$
- e. None of These

37. Order the following values from least to greatest.

$-7, |4.5|, 3, |-2|$

- a. $|4.5| 3 |-2| -7$
- b. $-7, 3, |4.5|, |-2|$
- c. $-7 |-2| 3 |4.5|$
- d. $-7, |4.5|, 3, |-2|$
- e. None of These

38. Convert 26% to a fraction in simplest form.

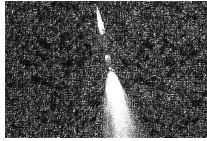
- a. $\frac{13}{100}$
- b. $\frac{26}{50}$
- c. $\frac{26}{100}$
- d. $\frac{13}{50}$
- e. None of These

39. Today is Saturday. What day of the week is 200 days from today?

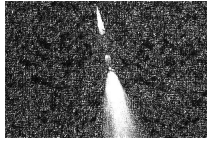
- a. Wednesday
- b. Saturday
- c. Tuesday
- d. Thursday
- e. None of These

40. A farmer has 150 rabbits. There are 4 times as many female rabbits as male rabbits. How many male and female rabbits are there?

- a. 30 male, 120 female
- b. 120 male, 30 female
- c. 73 male, 77 female
- d. 77 male, 73 female
- e. None of These



41. Camryn practices the trumpet every 11th day and the flute every 3rd day. Camryn practiced both the trumpet and the flute today. How many days until Camryn practices the trumpet and flute again on the same day?
- 32
 - 33
 - 66
 - 99
 - None of These
42. Simplify the expression $3(6 \cdot 5 - 9) + 4(9 \cdot 7 - 25)$
- 152
 - 105
 - 214
 - 326
 - None of These
43. Kate is 3 years older than John and 5 years younger than Carrie. If John is 12 years old, how old is Carrie?
- 7
 - 15
 - 10
 - 20
 - None of These
44. A Rental car company charges \$30 plus 40 cents per each mile driven. What is the total cost of driving 325 miles?
- \$13,030
 - \$160
 - \$16.00
 - \$166.00
 - None of These
45. Given: A season ski pass costs \$395. A single day ticket costs \$40.
- Find: How much money is saved buying a season ski pass compared to 38 single day tickets?
- \$14,205
 - \$1,125
 - \$1,275
 - \$1,251
 - None of These
46. The length of a rectangle is twice its width. The Rectangle has a perimeter of 48cm. What is its area?
- 64cm²
 - 24cm²
 - 36cm²
 - 128cm²
 - None of These



47. $0.081 =$

- a. .0081%
- b. .81%
- c. 81%
- d. .081%
- e. None of These

50. The ratio of two numbers is 7:4. The product of these numbers is 448. What is the smaller of these two numbers?

- a. 11
- b. 24
- c. 112
- d. 16
- e. None of These

48. If 192 fifth graders and 136 sixth graders entered a drawing, find the probability of a sixth grader winning the drawing.

- a. $\frac{17}{41}$
- b. $\frac{17}{24}$
- c. $\frac{24}{41}$
- d. $\frac{3}{4}$
- e. None of These

49. If a color printer is on sale for 35% off. How much will you save on a printer that originally cost \$440?

- a. \$257
- b. \$15,400
- c. \$286
- d. \$154
- e. None of These