

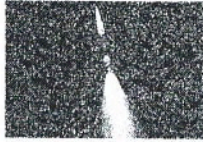
Thirty-Seventh Annual Sixth Grade Math Blast

2018

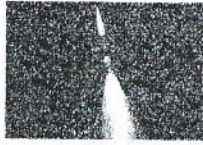
Stage One

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. Last year Ting earned \$546 by babysitting. What were her average weekly earnings?
 - a. \$54.60
 - b. \$105.00
 - c. \$10.50
 - d. \$5.46
 - e. None of These
2. Simplify: $18 \div 6 \times 32$
 - a. 3
 - b. 96
 - c. 24
 - d. 90
 - e. None of These
3. There are 454 grams in a pound. There are 16 ounces in a pound. How many grams are in an ounce?
 - a. .28 grams
 - b. 28.375 grams
 - c. 28.75 grams
 - d. .28375 grams
 - e. None of These
4. How many hours are equal to 250 minutes?
 - a. 5.5 hours
 - b. 3.5 hours
 - c. 4 hours
 - d. 4.5 hours
 - e. None of These
5. When you multiply one million by itself, the answer is a "1" followed by how many zeroes?
 - a. 6
 - b. 9
 - c. 12
 - d. 15
 - e. None of These
6. Find the value of : $a^3 - |b|$
When $a = 3$ and $b = -4$
 - a. 13
 - b. 5
 - c. 31
 - d. 23
 - e. None of These



7. Jonah and his grandfather plan to cut a $\frac{7}{8}$ meters long piece of wood. They want to make $\frac{1}{4}$ meter long pieces. How many pieces can be cut?

- a. 5
- b. $3\frac{1}{2}$
- c. $4\frac{4}{7}$
- d. 3
- e. None of These

8. By which of the numbers 2, 3, 5, 9 and 10 is 660 divisible by

- a. 2, 5, and 10 only
- b. 3 and 9 only
- c. 2, 3, 5, and 10 only
- d. 3, 5, and 10 only
- e. None of These

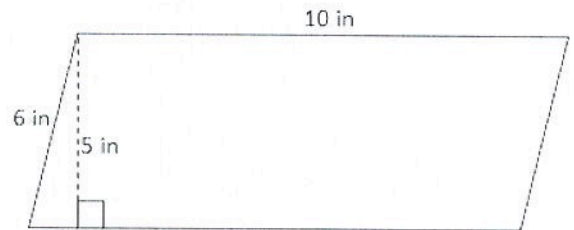
9. Ken can exchange 8 Euros for 11 US dollars. How many dollars can Ken get for 15 Euros.? Round your answer to the nearest penny.

- a. \$22
- b. \$20.62
- c. \$10.91
- d. \$21.63
- e. None of These

10. Evaluate: $(2 \cdot 3)^2 - 5^2$

- a. 7
- b. 2
- c. 11
- d. 13
- e. None of These

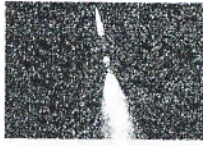
11. Find the area of the figure below.



- a. 300 in^2
- b. 50 in^2
- c. 30 in^2
- d. 60 in^2
- e. None of These

12. Choose the equation that is true.

- a. $18 - 2 \times 3 + (6 \times 3) = 66$
- b. $3^2 + 4^2 - 9 + (3 \times 2) = 23$
- c. $7 \times (4 + 1) - 7 \times 2 = 21$
- d. $(8 \times 2) - 3^2 + (5 \times 2) = 35$
- e. None of These



13. Suppose you receive an allowance of \$64 and your friend receives an allowance of \$56 at the beginning of the month. If you spend \$5 a day and your friend spends \$3 a day, after how many days will you and your friend have the same amount of money?

- a. 15 days
- b. 8 days
- c. 9 days
- d. 4 days
- e. None of These

14. Below is the number of caramel clusters in a small bag of each brand of trail mix at Max's grocery store.

8, 9, 14, 5, 12, ?

If the mean of the data is 9 caramel clusters, find what the missing number is.

- a. 8.5
- b. 48
- c. 6
- d. 9
- e. None of These

15. $\frac{3}{12}$ of Mary's stamp collection is 2220 stamps. How many stamps does she have?

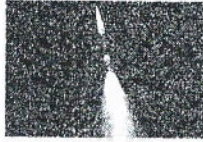
- a. 6660
- b. 555
- c. 7400
- d. 8,880
- e. None of These

16. If the first chapter of a certain book is 42 pages long and makes up 5% of the book, how many pages does the entire book have?

- a. 84 pages
- b. 420 pages
- c. 882 pages
- d. 840 pages
- e. None of These

17. Evaluate: $\frac{5}{6} - \left(\frac{1}{3} + \frac{2}{5}\right)$

- a. $\frac{22}{30}$
- b. $\frac{1}{10}$
- c. $\frac{11}{15}$
- d. $\frac{2}{14}$
- e. None of These



18. At a restaurant, the bill comes to \$55, if you decide to leave a 12% tip how much is the tip?

- a. \$5.50
- b. \$61.60
- c. \$5
- d. \$6
- e. None of These

21. Find the greatest common factor of 210 and 90

- a. 21
- b. 30
- c. 3
- d. 630
- e. None of These

19. Evaluate: $\frac{1}{5}(6 + 3 + 1)^2$

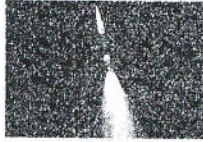
- a. 20
- b. 4
- c. 5
- d. 25
- e. None of These

22. Evaluate $rw + 14w$ when $r = 6$ and $w = \frac{1}{4}$

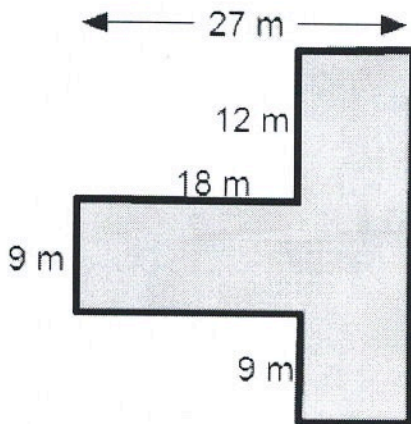
- a. $\frac{5}{22}$
- b. 1.5
- c. 3.5
- d. 5
- e. None of These

20. Order the rational numbers from least to greatest. $\frac{7}{3}$, $\left|-\frac{5}{2}\right|$, -2 , -3.25

- a. $\frac{7}{3}$, -2 , $-\frac{5}{2}$, -3.25
- b. $-\frac{5}{2}$, $\frac{7}{3}$, -2 , -3.25
- c. -3.25 , $-\frac{5}{2}$, $\frac{7}{3}$, -2
- d. -2 , -3.25 , $-\frac{5}{2}$, $\frac{7}{3}$
- e. None of These



23. What is the area of the shape below?



25. A small box measures 4 in. by 10 in. by $\frac{3}{4}$ in. high.

Find the volume of the box.

- a. $492 m^2$
b. $432 m^2$
c. $114 m^2$
d. $351 m^2$
e. None of These
24. The measurements of a rectangular prism are as follows:

Length is $\frac{2}{3}$ meters, the width is $\frac{3}{8}$ meters, and the volume is $6\frac{1}{4}$ meters. What is the height of this rectangular prism?

a. $6m$
b. $1\frac{9}{16}m$
c. $\frac{175}{24}m$
d. $25m$
e. None of These
- a. $60 in^3$
b. $40 in^3$
c. $120 in^3$
d. $30 in^3$
e. None of These
26. A cash register contains only five dollar and ten dollar bills. It contains twice as many five's as ten's and the total amount of money in the cash register is 680 dollars. How many ten's are in the cash register?

a. 17
b. 68
c. 34
d. 16
e. None of These



27. Calculate the mean of the data below:

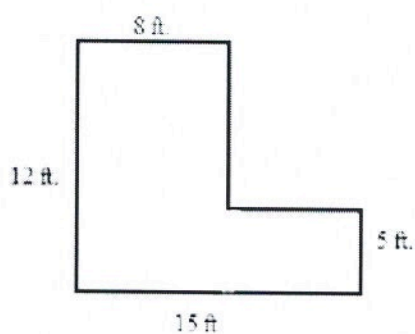
78, 66, 84, 78, 54, 96

- a. 78
- b. 456
- c. 1491.2
- d. 76
- e. None of These

29. $0.0421 =$

- a. .0421%
- b. 4.21%
- c. 42%
- d. 421%
- e. None of These

28. What is the area of the figure below?



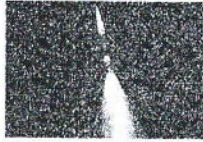
- a. 116 ft^2
- b. 131 ft^2
- c. 171 ft^2
- d. 40 ft^2
- e. None of These

30. If the distance from your friend's house to the nearest Red Robin is 9 meters and you know that you can skip an average of 3 meters per hour, how many minutes would it take to skip from your friend's house to the nearest Red Robin if you skip at average speed?

- a. 180 min
- b. 3 min
- c. 1,620 min
- d. 300 min
- e. None of These

31. What is the least common multiple of 72 and 9

- a. 162
- b. 6,480
- c. 720
- d. 360
- e. None of These



32. Which of the r -values satisfy the following inequality? $\frac{r}{3} + 5 \leq 8$

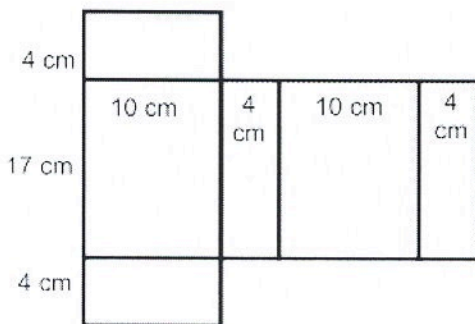
- a. 6 and 12
- b. 9 and 6
- c. 6 only
- d. 9 only
- e. None of These

34. Raul has been training for a road bike race that takes a cyclist from the town of Logan, Utah to Jackson Hole, Wyoming. Raul's times for this exact same race the previous 8 years are shown in the table below.

Raul's Bike Race Times (Hours)							
9.2	9.15	9.5	12.08	9.2	9.4	10.9	9.8

What is Raul's *median* time for these previous races?

33. What is the surface area of the figure below?

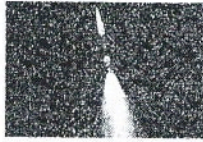


- a. 148 cm^2
- b. 336 cm^2
- c. 144 cm^2
- d. 556 cm^2
- e. None of These

- a. 9.45 hours
- b. 9.2 hours
- c. 10.64 hours
- d. 10.05 hours
- e. None of These

35. 6 is $\frac{3}{5}$ of what number?

- a. 18
- b. 3.5
- c. 10
- d. 6
- e. None of These



36. Ginger is fishing on New Melones. She is 5 miles from the boat ramp, traveling at $1\frac{1}{2}$ mph. How long will it take her to get back to the boat ramp?

- a. 3 hours 20 minutes
- b. 7 hours and 30 minutes
- c. 3 hours
- d. 1 hour 20 minutes
- e. None of These

37. The ratio of two numbers is 9:7. The sum of these numbers is 96. What is the positive difference of these two numbers

- a. 80
- b. 10
- c. 6
- d. 12
- e. None of These

38. Sophie has to give her dog medication. Her dog gets 1 pill twice a day. If today is Sunday, and she has 52 pills left. On which day will she have no pills to give to her dogs?

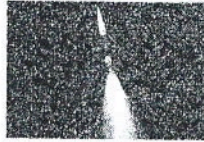
- a. Wednesday
- b. Friday
- c. Sunday
- d. Thursday
- e. None of These

39. The fish has a head 6 inches long The tail is equal to the size of the head plus one-third the size of the body The body is 18 inches. How long is the fish?

- a. 24 inches
- b. 26 inches
- c. 36 inches
- d. 33 inches
- e. None of These

40. A recipe for pancakes calls for 1 cup of water for every $\frac{2}{3}$ cup pancake mix. If Charlotte uses 10 cups of pancake mix how much water will she need?

- a. 15 cups of water
- b. $6\frac{2}{3}$ cups of water
- c. 2 cups of water
- d. 10 cups of water
- e. None of These



41. Simplify the expression $4[8 + 3(5 \cdot 8 - 29)]$

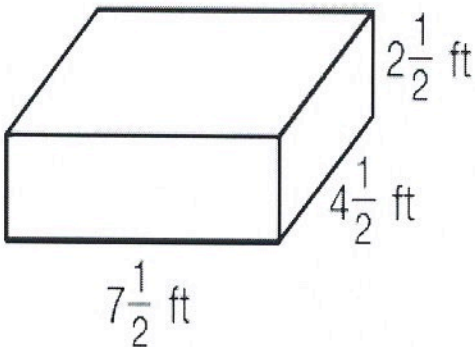
- a. 1,371
- b. 164
- c. 484
- d. 88
- e. None of These

43. Calculate the mean of the data set below.

7, 8, 2, 4, 5

- a. 5
- b. $5\frac{1}{5}$
- c. no mean
- d. 6
- e. None of These

42. What is the volume of the box below?
(round your answer to the nearest hundredth).



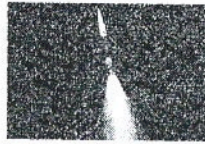
- a. $84.38ft^3$
- b. $14.50ft^3$
- c. $56.13ft^3$
- d. $33.75ft^3$
- e. None of These

44. There are 946 milliliters in a quart. There are 2 pints in a quart. How many milliliters are in a pint?

- a. 946ml
- b. 423ml
- c. 236.5ml
- d. 473ml
- e. None of These

45. Evaluate: $ab + 9a$ When $a = \frac{2}{3}$, $b = 18$

- a. $28\frac{1}{3}$
- b. 18
- c. 12
- d. 36
- e. None of These



46. Convert 64% to a fraction in simplest form

- a. $16/25$
- b. $32/100$
- c. $32/50$
- d. $64/50$
- e. none of these

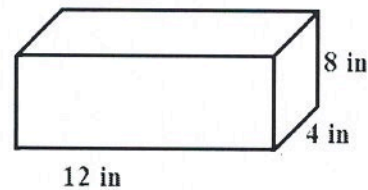
49. Colton has 8 comedy movies, 6 action movies, 5 fantasy movies and 1 drama movie on his list of favorite movies. For every 5 movies on the list there are 2 _____ movies.

- a. *action*
- b. *fantasy*
- c. *comedy*
- d. *drama*
- e. None of These

47. A shirt was originally priced at \$25. The store is having a 15% off sale. How much will you pay for the shirt after the discount (not including tax)?

- a. \$28.75
- b. \$10
- c. \$21.25
- d. \$21
- e. None of These

50. Find the surface area of a rectangular solid. Assume the figure has a top, shown below.



48. If the sum of three consecutive odd integers is 87, what is the smallest of the three integers?

- a. 1
- b. 25
- c. 35
- d. 27
- e. None of These

- a. 176 inches^2
- b. 384 inches^2
- c. 352 inches^2
- d. 304 inches^2
- e. None of the above