OKLAHOMA SCHOOL of SCIENCE and MATHEMATICS

24th Annual OSSM Middle School Math: An Awesome Contest—Round Two

6th Grade Test B

Spring 2026

Before you begin:

1. Please write your name on your answer sheet.
2. On your name tag you have been given a three-digit OSSM student ID number. On the answer sheet, in the lower right-hand corner, there is a place to fill in the three-digit student ID number (use the first three boxes, leaving the rest blank).
3. Fill in the appropriate bubbles for your OSSM student ID.

Directions:

Use the scratch paper provided to do your work.

Choose the appropriate answer, and then fill in the corresponding bubble ON THE ANSWER SHEET.
DO NOT MAKE ANY STRAY MARKS ON YOUR ANSWER SHEET; it may cause the machine to misread your answer sheet and may disqualify your score.

This is a 40-question, 1-hour contest. All questions are multiple-choice. Figures are not to scale. Each question is worth one point. Your score will be the number of correct answers. There is no partial credit or penalty for wrong answers. Please continue working or reworking problems until time is called.

Do Not Open or Turn Over Until Instructed To Do So

Fill in your answers ON THE ANSWER SHEET by filling in the corresponding bubble.

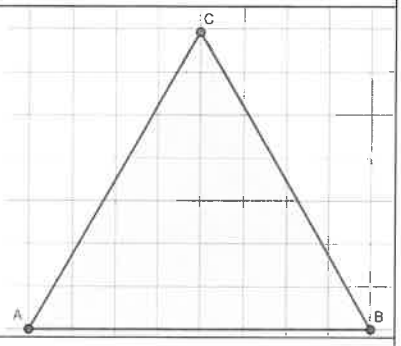
DO NOT MAKE ANY STRAY MARKS ON YOUR ANSWER SHEET!

You may use this space for scratch paper.

1. $1-(-2)(3)+(-3)(-4)=$
   a. -17
   b. -5
   c. 7
   d. 13
   e. 19

2. Which of the following expressions represents the smallest number?
   a. $1+2+3+4+5$
   b. $1\times2\times3\times4\times5$
   c. $1-2-3-4-5$
   d. $12{,}345$
   e. $1\times2-3\times4-5$

3. In the figure, each small square is a unit square. Which answer choice is closest to the area of the equilateral triangle?
   a. 24
   b. 25
   c. 26
   d. 27
   e. 28



4. Rayden received the following cryptic list of numbers in the mail: {1, 3, 6, 7, 7, 8, 8, 8}. If M is the mean of the list, m is the mode, and $\mathcal{M}$ is the median, what is $M+m-\mathcal{M}$?
   a. 6
   b. 6.5
   c. 7
   d. 7.5
   e. 9

5. Dr. Givens loves Diet Dr. Pepper. On Monday, Tuesday, and Wednesday, he drank 3, 5, and 4 cans, respectively. If Dr. Givens wants to average three cans per day over the 5-day school week, how many more cans of Diet Dr. Pepper can he drink on Thursday and Friday combined without going over his goal?
   a. 2
   b. 3
   c. 4
   d. 5
   e. 6

6. Suppose you have 3 line segments of certain lengths, and you try to make a triangle out of them. Which of the following sets of 3 lengths would not form a triangle?
   a. 3, 4, 5
   b. 5, 5, 5
   c. 2, 3, 3
   d. 2, 4, 5
   e. 2, 3, 6

7. Which of the following whole numbers is closest to $\frac{142}{7}$?
   a. 17
   b. 18
   c. 19
   d. 20
   e. 21

8. Prof. Bodenstein decides to go out for lunch twice a week during the 5-day school week, but she doesn't want to go out two days in a row. How many different ways can Prof. Bodenstein choose which two days she goes out for lunch?
   a. 6
   b. 7
   c. 8
   d. 9
   e. 10

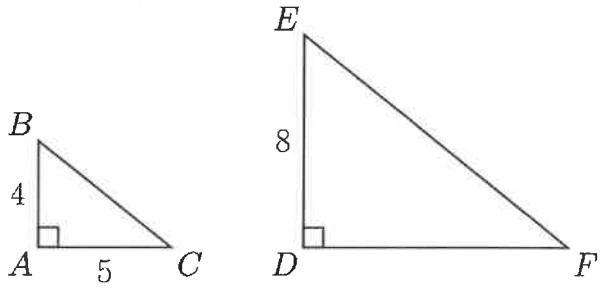
9. If N is the smallest whole number that is evenly divisible by each of 4, 8, 12, and 16, what is the sum of the digits of N?
   1. 11
   2. 12
   3. 13
   4. 14
   5. 15

10. If I can run 1000 feet in two minutes, how long does it take me to run 100 yards?
   a. 36 seconds
   b. 40 seconds
   c. 42 seconds
   d. 45 seconds
   e. 48 seconds

11. If a line in the xy-plane passes through quadrants I, II, and III, then it must have
    a. positive slope and positive y-intercept
    b. positive slope and negative y-intercept
    c. negative slope and positive y-intercept
    d. negative slope and negative y-intercept
    e. slope zero and y-intercept zero

12. If S is at least 2 but no bigger than 3, and $S \times T = 10$, what is the difference between the largest and smallest possible value of T?
    a. 1
    b. $1\frac{1}{3}$
    c. $1\frac{2}{3}$
    d. 2
    e. $2\frac{1}{3}$

13. In the following diagram, ΔABC is similar to ΔDEF. What is the area of ΔDEF?
    a. 10
    b. 20
    c. 40
    d. 80
    e. 160



14. Which of the following operations does NOT have the property that, when performed twice in a row, you always get back the number you started with?
    a. Multiplying the number by –1
    b. Taking the reciprocal of the (non-zero) number
    c. Taking the absolute value of the number
    d. Evaluating one minus the number
    e. All of the above give the same number back whenever performed twice in a row

15. How many prime numbers are less than or equal to 30?
    a. 9
    b. 10
    c. 11
    d. 12
    e. 13

16. Right now, my mentor is 10 years older than three times my age. In 30 years, my mentor will be twice as old as I will be. How old am I right now?
    a. 10 years old
    b. 20 years old
    c. 40 years old
    d. 70 years old
    e. 100 years old

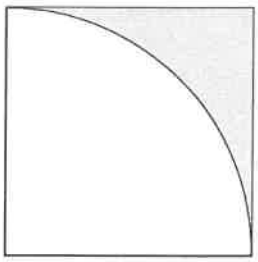
17. One Pie-o-tron can produce 4 apple pies every 30 minutes. If Grace needs to make at least 100 apple pies in 2 hours, what is the minimum number of Pie-o-trons she needs to buy?
    a. 4
    b. 5
    c. 6
    d. 7
    e. 8

18. A *pizza* is a circle whose size is listed according to how large its diameter is. Which of the following pizza orders will give you the most amount of pizza area?
    1. One 12-inch pizza
    2. Two 10-inch pizzas
    3. Three 8-inch pizzas
    4. Four 6-inch pizzas
    5. Five 4-inch pizzas

19. A block of cheese is shaped like a rectangular prism with length 40 cm, width 10 cm, and height 30 cm. What is the surface area of the cheese?
    a. 80 square cm
    b. 1900 square cm
    c. 3800 square cm
    d. 12,000 square cm
    e. 24,000 square cm

20. $4\frac{4}{15} - 2\frac{7}{18} =$
    a. 169/90
    b. 5/3
    c. 191/90
    d. 20/9
    e. 68/45

21. In the following diagram, a quarter-circle is inscribed in a square of side length 4. What is the area of the shaded region?



a. $16\pi - 16$
b. 8π
c. $8 - 4\pi$
d. $16 - 4\pi$
e. 4π

22. Melody starts reading a new book of limericks at 2:11, and reads 6 limericks per minute. A little while later, Pranav begins reading the same book at a pace of 8 limericks per minute. They both finish the book at exactly 3:41. When did Pranav start reading?
a. between 2:30 and 2:35
b. between 2:35 and 2:40
c. between 2:40 and 2:45
d. between 2:45 and 2:50
e. between 2:50 and 2:55

23. When Dr. K. first started working at OSSM, the soda machine sold 12-ounce cans for 50 cents. Now, it sells 20-ounce bottles for $2.50. What is the percentage increase in the cost of soda *per unit of volume*?
a. 200%
b. 250%
c. 300%
d. 400%
e. 500%

24. Which is largest?
a. 2^{10}
b. 4^8
c. 6^6
d. 8^4
e. 10^2

25. Thomas has 4 different shirts and 5 different pairs of pants. One of Thomas's shirts and one of his pairs of pants is lucky; if he wears his lucky shirt, he must also wear his lucky pants with them, and vice versa. Otherwise, Thomas can wear any other combination of shirt and pants. If Thomas wants to wear one shirt and one pair of pants, how many ways can Thomas get dressed?
a. 13
b. 14
c. 15
d. 19
e. 20

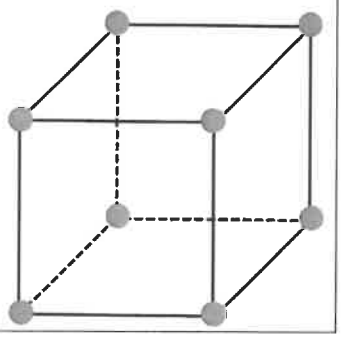
26. What is the sum of the first 10 prime numbers?
    a. 126
    b. 127
    c. 128
    d. 129
    e. 130

27. If P is the least common multiple of 20 and 25, and Q is the least common multiple of 25 and 30, then what is the greatest common factor of the numbers P and Q?
    a. 5
    b. 10
    c. 20
    d. 25
    e. 50

28. What is 10% of 20% of 30% of 40?
    a. 0.24
    b. 2.4
    c. 0.024
    d. 24
    e. None of these

29. If 6a + 4b = 20, what is the value of 9a + 6b?
    a. 24
    b. 28
    c. 30
    d. 32
    e. Cannot be determined

30. If you start with a cube, how many ways are there to choose four of its corners that are also the corners of a square or rectangle?
    a. 6
    b. 8
    c. 12
    d. 16
    e. 18



31. Suppose an equilateral triangle and a square both have side lengths of 10 units. Which of these is closest to the triangle's area as a percentage of the square's area?
    a. 21%
    b. 43%
    c. 65%
    d. 87%
    e. 99%

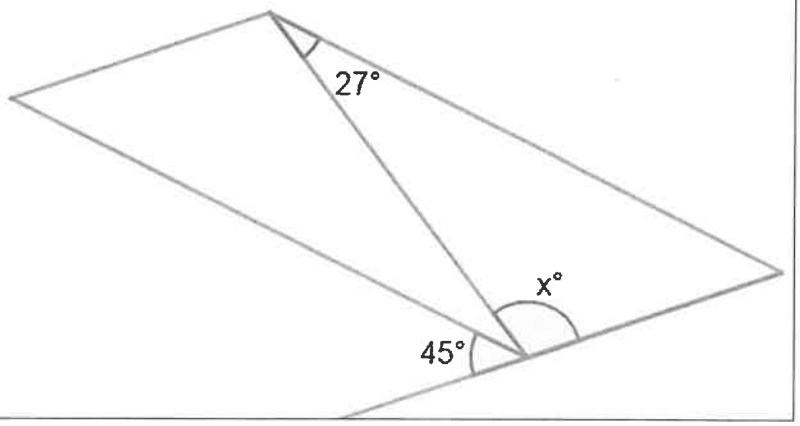
32. Which of the following equations has no real solutions?
    a. $x^2 + 2 = 0$
    b. $x^2 - 2 = 0$
    c. $x^3 + 1 = 0$
    d. $x^2 - 1 = 0$
    e. $x + 2 = 0$

33. I drew a triangle with whole-number side lengths. The longest side is exactly three times as long as the shortest side. Which of the following COULD be the perimeter of my triangle?
    a. 9
    b. 11
    c. 13
    d. 15
    e. 17

34. Which of the following is a factor of the number $(95)(95) - (35)(35)$?
    a. 7
    b. 11
    c. 13
    d. 17
    e. 19

35. The diagram shows a parallelogram with certain angles marked. What is the value of x?

    a. 96
    b. 100
    c. 104
    d. 108
    e. 112



36. At the Build-a-Heffalump Factory, you can freely choose your Heffalump doll's color, shape, and size from the available options. The available colors are green, blue, pink, and white. The available shapes are round and square. If there are 24 different Heffalump dolls possible, which of these might be the list of Heffalump sizes you can choose from?
    a. Medium, Large
    b. Small, Medium, Large
    c. Small, Medium, Large, Gigantic
    d. Teensy, Small, Medium, Large, Gigantic
    e. Teensy, Small, Medium, Large, Gigantic, Megalithic

37. Order the following quantities from least to greatest:
    A. Two times the number of edges on a square pyramid
    B. Three times the number of faces on a cube
    C. Three times the number of faces on a triangular prism
    D. Five times four

    a. C, A, B, D
    b. C, B, D, A
    c. A, C, B, D
    d. A, B, C, D
    e. C, B, A, D

38. Which of the following best describes the set of points in the xy-plane that are at an equal distance from each of the two points $(-1,1)$ and $(1,-1)$?
    a. a single point
    b. three points
    c. a line
    d. two intersecting lines
    e. a circle

39. It takes Dr. Tu 5 minutes to walk from the library to his office in the MAC. However, if he's running late, he can run the same distance in 2 minutes. One day, Dr. Tu thinks he's running late and runs a third of the way to the MAC, then realizes he has plenty of time and walks the rest of the distance. How long did this entire trip take?
    a. 3 minutes, 30 seconds
    b. 3 minutes, 45 seconds
    c. 4 minutes
    d. 4 minutes, 15 seconds
    e. 4 minutes, 30 seconds

40. If two standard, six-sided dice are rolled, what is the probability that the product of the two numbers is a perfect square?
    a. 2/9
    b. 1/6
    c. 1/3
    d. 1/9
    e. 1/7

You may use this space for scratch paper.