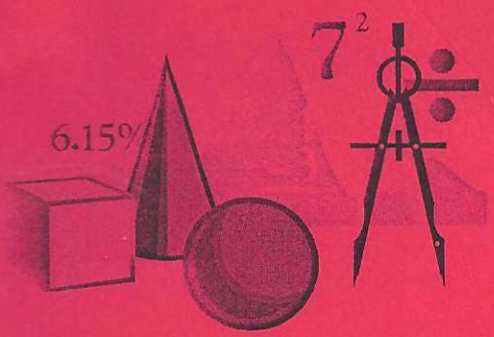


7th Grade

2013 Cindy D. Wright Mathematics Tournament presented by Pizitz Middle School

7th Grade Written Test

Directions:

1. Do not open this test until you are told to do so by the proctor.
2. 60 minutes will be allowed for completing this test. The proctor will keep time. Students must stay in the testing room for the full 60 minutes. Anyone leaving the testing room for an emergency must turn in their test and scantron answer sheet and not return.
3. Use a #2 lead pencil.
4. No calculators, books, notes, or other aides may be used. If your watch has a calculator, please remove your watch now. Cell phones must be turned off.
5. Scratch paper will be provided; you may not furnish your own. If you need more scratch paper during the test, raise your hand, and your proctor will bring it to you. You may write on your test.
6. You will receive four points for each correct answer and have one point deducted for each incorrect answer. An answer left blank will not change the score.
7. There are three tiebreakers at the end of the test. Write your name, your school name, grade, and tiebreakers answers in the top margin on the back of your scantron. If the tiebreakers do not break a tie, then the test will be scored backwards, with the first person to not answer a question correctly being given the lower place.
   Please write your name, school, and TB1, TB2, and TB3 on the back of your scantron answer sheet now.
8. Please give your scantron answer sheet to the proctor before leaving the testing room. You may keep your copy of the test. Answer Keys will be posted in the corner areas on each floor and in the cafeteria.

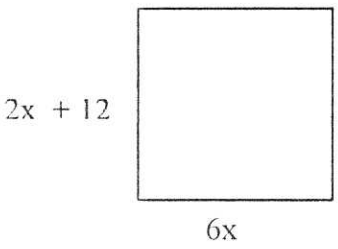
Good Luck!

2013 Cindy D. Wright Mathematics Tournament
Seventh Grade Test

1. What is the product of the GCF of $6a^2b^3d$ and $9ab^2d$ and the LCM of 27 and 18?

A. $42a^2b$ B. $62ab^2d$ C. $162ab^2d$ D. $27ab^2d$ E. NOTA

2. Find the numeric perimeter of the square.



A. 18 B. 3 C. 324 D. 72 E. NOTA

3. Simplify. $(-11 - 6 - (-5) + 1 + 3 \cdot 2) \div (-5)$

A. $\frac{52}{5}$ B. 1 C. $\frac{-16}{5}$ D. -1 E. NOTA

4. Simplify. $(2xyz)(x^2y)(3xz^2)$

A. $6x^2yz^2$ B. $5x^4y^2z^3$ C. $6x^4y^2z^3$ D. $5\,x^2y^2z^3$ E. NOTA

5. Find the square root of the reciprocal of 7^{-2}.

A.21 B. 1/7 C. 49 D.7 E. NOTA

6. Yasha wants to buy a dress that originally cost $400. She has a coupon for 20% off and another for an additional 30% off. Find the total price of the dress including an 8% sales tax.

A. $241.92 B. $184.00 C. $216.00 D. $203.68 E. NOTA

7. What is the value of this expression when x = –3 and y = 4?

$$x^3y^2 + x^2y^3 - (x + y)^2$$

A. 143 B. -143 C. 144 D. 136 E. NOTA

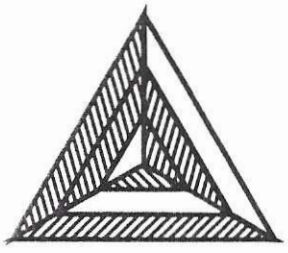
8.. Find the measure of one exterior angle of a regular dodecagon.

A. 30° B. 144° C. 36° D. 150° E. NOTA

9. Solve for x. $-6-2x=-4x-4$

A. -1 B. 5 C. 1/3 D. 1 E. NOTA

10. Cocoa the dog likes to sleep on a triangular rug. What are the odds that he will sleep on the unshaded region tonight?



A. 1 to 2 C. 1 to 3

B. 2 to 1 D. 3 to 1 E. NOTA

11. Find the remainder when 2012^{2012} is divided by 5.

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

12. If $8x + 14 = 12x - 22$, what does $(x + 5)^2$ equal?

A. 16 B. 324 C. 196 D. 256 E. NOTA

13. Solve. $3x + 6 = 3x - (8 + 4)$

A. {0} B. No Solution C. {1} D. All Real numbers E. NOTA

14. Solve for y: $\frac{7!3!}{6!\,y} = 1$

A. 6 B. 14 C. 42 D. 3 E. NOTA

15. Evaluate: $18^2 + 17^2 + 16^2$.

A. 892 B. 2020 C. 974 D. 869 E. NOTA

16. Find: 2 miles + 1683 feet = _____ yards

A. 12,243 B. 6963 C. 4081 D. 13243 E. NOTA

17. What is the reciprocal of $\left(\frac{1}{2}\right)^2 + \frac{1^2}{2} + \left(\frac{1}{2}\right)^{-2}$?

A. 19/4 B. 1/4 C. 2 D. 4/19 E. NOTA

18. Find the slope of the line perpendicular to $4x - y = -2$.

A. $\frac{1}{4}$ B. 4 C. $\frac{-1}{4}$ D. -4 E. NOTA

19. The number of years in William's age is the number of months in Sidhvi's age. Their combined age is 65 years. Find William's age?

A. 15 yrs B. 5 yrs C. 60 yrs D. 58 yrs E. NOTA

20. Simplify. $\dfrac{6}{3 + \dfrac{3}{7+2}}$

A. $\frac{9}{5}$ B. 3 C. 10 D. $\frac{4}{3}$ E. NOTA

21. Find 150% of 30% of 372.

A. 167.4 B. 16.74 C. 1674 D. 1.674 E. NOTA

22. Evaluate: $\sqrt{2}\,(\sqrt{50} + 300\sqrt{2}\,)$

A. $32\sqrt{2}$ B. 610 C. $10 + 300\sqrt{2}$ D. $310\ \sqrt{2}$ E. NOTA

23. Find the area of an isosceles right triangle whose hypotenuse is 8 cm.

A. $8\sqrt{2}$ B. 16 C. $16\sqrt{2}$ D. 32 E. NOTA

24. How many odd numbers are there greater than 1000 but less than 10,000?

A. 4499 B. 4950 C. 4501 D. 5000 E. NOTA

25. Compute: CCCXCV + DCCCXLV

A. MCCXL B. MDCXXXX C. CMMX D. MDCXIV E. NOTA

Tiebreakers

Please write tiebreaker answers in the top margin on the back of the scantron.

TB1: Find the answer in base 10: $11011_2 + 321_4$

TB2: Find the surface area of a rectangular prism if $l = 4$ cm, $h = 8$ cm, $w = 2$ cm.

TB3: Solve: $x^2 + 6x + 27 = 18$