

Sixth Grade – Math Olympiad Individual

1. Solve for Z when $\frac{5.3 \times 3.5}{0.7} = Z$

- A. 265 B. 12.56 C. 2.65 D. 26.5

2. Working to help solve a mystery, Jake the dog hides in the refrigerator and disguises himself as a rectangular prism shaped stick of butter with a volume of 260 cubic centimeters. Later, Jake hides in a barn and expands his length, width, and height each 10 times the size of before, and pretends to be a bale of hay. What is Jake's new volume?



- A. it cannot be determined B. 260,000 cm³ C. 7,800 cm³ D. 2,600 cm³



3. Determine the mean for the set: [17, 0, 34, 68, 85, 102, 51]

- A. 51 B. 59.5 C. 47.6 D. 63

4. For the celebration of Pi Day (3/14/15 or 3.1415), Martha, Rachael and Alton all made pies for New Mexico's Pie Town. Each pie had a circular base and had equal heights. Martha's lemon chiffon (it's a good thing) pie had a diameter of 1 1/3 feet. Rachael's lady finger charlotte pie measured 8 inches from its top center to its top edge. Alton's pecan pie had a circumference of 54 inches. Who made the largest pie?

- A. All are the same size B. Martha C. Rachael D. Alton

5. With the battery of his electric hover-chair being only 3/8 charged, Archietron can travel a maximum of 63 miles. How many miles could he travel if the battery was fully charged?

- A. 315 B. 168 C. 504 D. 189



6. The expression $27 \left(\frac{1}{6} + \frac{8}{5} \right)$ is equal to which of the expressions below?

- A. $27 \times \frac{9}{11}$ B. $\frac{27}{6} + \frac{8}{5}$ C. $\frac{27}{6} + (27 \times \frac{8}{5})$ D. $(27 + \frac{1}{6}) \times (27 + \frac{8}{5})$

7. The number 78 has 8 positive whole number factors. What is the product of all 8 of these factors?

- A. 8 B. 78 C. 312 D. 37,015,056

8. Hubert has a method for how he plans to answer this year's Math Olympiad individual test questions. He has brought with him a fair six-sided die and will roll it for each question. Of the 4 possible answers, he will answer A if a 1 or 2 is rolled, B for a 3, C for a 4, D for a 5, and he will roll again if a 6 is rolled. If the test answers are randomized, and they are, what is the probability of Hubert answering the first question correctly if the correct answer is C?

- A. 1/4 B. 1/6 C. 1/5 D. 1/3

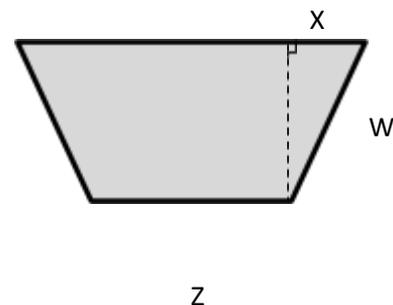


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9. "Will you just hold on a second!?" pleaded dad with his young daughter. "That's what you said at 8:14 a.m. exactly and now it has been 10:08 a.m. for 45 seconds." his daughter replied. How many seconds had the daughter been holding on?

- A. 1,585 B. 4,685 C. 6,885 D. 9,285

10. The figure at the right is an isosceles trapezoid. If $W = 13$ zettameters, $X = 5$ zettameters, $Y = 12$ zettameters, and $Z = 15$ zettameters, what is the area of this figure?



- Y
A. 300 zm^2 B. 240 zm^2
C. 195 zm^2 D. 210 zm^2

11. A square plot of land 1,200 feet long on each side provides a refuge for coconut crabs living in palm trees. There is a sign post with the warning "Beware of Crabs" at each corner of the plot. Eugene has purchased an additional 20 new sign posts and puts them along the perimeter of the square plot so that each is equally spaced along the perimeter from the next closest one. How far apart is each sign post from the next closest one?



- A. 200 feet B. 240 feet C. 300 feet D. 60 feet



12.

Ω	3	5.5	8.25	11
U	0	5	10.5	16

In the chart shown above, what expression can be used in place of the Ω symbol?

- A. $0.75 \times U + 2.5$ B. $\frac{U}{2} + 3$ C. $\Omega - 0.5/2\Omega$ D. $7 + \frac{U}{4}$

13. A table with a square top is standing all by itself in the middle of a large cafeteria. A total of 12 people can sit at that table to eat. Eighteen of these tables are then arranged so that their combined tops touch to form squares. What is the total number of people that can sit and eat at these combined tables if the fewest square shapes are made when arranging the 18 tables?

- A. 84 B. 216 C. 54 D. 72

14. A straight line in the coordinate plane passes through points (9,15) and (6,10). What other point will this line pass through?

- A. (2,5) B. (18,30) C. (0,3) D. (25,40)

15. A pirate band of 8 shared equally of their booty of Spanish golden doubloons. Four of these pirates gambled with their shares over a game of Liar's Dice. The one-armed, one-legged, one-eyed pirate named Lucky won the game and the other three pirates lost one third of their shares of the booty. What overall percentage of the booty does Lucky now possess?

- A. 45% B. 37.5% C. 25% D. 12.5%



END OF TEST! YOU MAY KEEP THIS COPY WHEN FINISHED



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