

2022 Grissom Math Tournament

PreAlgebra : 3 – 4 – 5 Team Contest

Sample Round

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1. Evaluate: $2(16 - 9)^2 - 111/3$	2. How many multiples of 5 are there between 144 and 961?
3. Given a cube with edge = 11 inches, let A = the number of cubic inches in the volume of the cube and B = the number of square inches in the surface area of the same cube, what is the value of A – B?	4. Solve for x: $\frac{x+3}{4} - \frac{x+1}{5} = 2$
5. How many distinct arrangements are there of the letters in the word: ALGEBRA ?	

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Round 1

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1. Evaluate: $\frac{1}{2} - \frac{1}{3} + \frac{1}{4} - \frac{1}{6} + \frac{1}{8} =$	2. Sung has \$2.90 in his pocket, a mixture of 17 coins, dimes and quarters. How many of the coins are quarters?
3. Simplify: $2\sqrt{18} + 5\sqrt{98} - 3\sqrt{50}$	4. If two fair six-sided dice are rolled, what is the probability the product of the two dice is greater than 10?
5. If the line $y = -2x - 7$ passes through the points $(4, a)$, $(b, 5)$, and $(c, 5c)$, what is the value of: $\frac{ab}{c}$?	

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Round 2

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1. Solve for a : $3a + 17 = 5a - 11$	2. What is $\frac{5}{2} \cdot \frac{1}{4} \cdot \frac{3}{7} \cdot \frac{3}{5} \cdot \frac{2}{3} \cdot 28$?
3. In a small class of math students, the grades on a test were 65, 85, 95, 95, 80, 73, and 95. Find the sum of the mean, median, mode, and range of this set.	4. If a is the number of integral perfect squares less than 60, and b is the sum of all such numbers, what is $a+b$?
5. If 5 sheep can lay 90 eggs in 2 days, how many eggs can 2 sheep lay in 3 days?	

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Round 3

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1. Solve for b : $46 - 2b < 13 - 5b$	2. What is the sum of the odd integers between 90 and 110?
3. Write an equation, in slope-intercept form, of the line through the points: (3, 7) and (0, 8).	4. If $342 \cdot n$ is a perfect square, what is the smallest positive integral value of n ?
5. How many inches are there in $\frac{1}{600}$ of a mile? (5280 feet = 1 mile.)	

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1. Evaluate: $\frac{2}{3} \left[\left(\frac{1}{3} + \frac{1}{7} \right) + \frac{25}{21} \right]$	2. If $a * b = a^3 - b^2$, find $4 * [1 * (2 * 3)]$.
3. Solve for m : $2[m - 3(4 - m)] = 5m - 7(4 + m)$	4. Zeke has a bag of 16 marbles, 9 red, 5 white, and 2 blue. If you randomly choose 2 marbles, one at a time, without replacement, what is the probability the first is blue, and the second is red?
5. If Abe puts \$6 in the bank on Saturday, and his bank account doubles every day, so that on Sunday he has \$12 in his account, what is the first day of the week when he has more than \$100 in his account?	

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