

Mount Rainier Math Invitational
Fifth Grade - April 1, 2005
"Who Wants to be a Mathematician"
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Put all answers on the colored answer sheet. Any wrong answer will result in the loss of all points after the last "safe" zones - after questions 4 and 8. If you do not know an answer, you may safely skip the question by answering "LL" to at most two questions. You do not receive credit for a "LL" but it does not count as a wrong answer.

Problems 1 through 4 are worth 1 point each	
1	Evaluate: $4+3(2/3)(3/2)$ A) $1/223$ B) $43023/32$ C) $17/36$ D) 7
2	Rebecca has just started learning a new instrument. For her band class, she must learn 12 scales. If Rebecca takes 30 minutes to learn one scale and practices scales for 2 hours each week, how many weeks will it take her to learn all twelve scales? A) 6 B) 12 C) 3 D) 2
3	A triangle whose sides are equal to each other and whose angles are equal to each other is called: A) right B) equilateral C) scalene D) perfect
4	A rectangle has an area of 32 and a length of 4. What is the width? A)16 B)8 C)4 D)2
Problems 5 through 8 are worth 2 points each	
5	How many different ways are there to arrange the word SOCCER? A)720 B)180 C)270 D)360
6	Darth Vader invaded a colony of grapes. Darth Vader took 15 grapes from each bunch. If each bunch had 45 grapes, and there were 32 bunches, how many grapes survived the gruesome attack? A)250 B)1092 C)950 D)960
7	A circle has an area of 121π . What is the diameter? A)11 B)33 C)121 D)22
8	$\frac{12!}{6!(2!)^2} =$ A)1 B)1/2 C)332640 D)720

Problems 9 through 11 are worth 3 point each	
9	<p>Alice has 64 cookies. The Queen of Hearts took half of them. Shortly after encountering the Queen, the Mad Hatter took $\frac{1}{4}$ of what was left.</p> <p>After that the caterpillar took $\frac{2}{3}$ of what Alice had left. How many cookies did Alice have left?</p> <p>A) 10 B) 12 C) 8 D) 9</p>
10	<p>King Aragon is rebuilding his castle. He enlists 30 elves to help and each elf brings 20 humans. Finally, each human hires 5 dwarves to work. Including himself, how many are working on Aragon's castle?</p> <p>A)3631 B)56 C)301 D)606</p>
11	<p>Floean Fortescue is trying to figure out a recent ice cream order. He knows that Hermione, Harry and Ron all ordered different things and no one bought two ice creams. Chocolate frogs make Hermione queasy. Ron doesn't like peanut butter. Harry's favorite dessert is treacle tart. Hermione adores raspberries. Finally, Ron hates caramel. What did Ron order?</p> <p>A) Raspberry and peanut butter nuts B) Chocolate Frog and caramel swirl C) Vanilla and treacle tart sundae D) Butterbeer float</p>
Problem 12 is worth 4 points	
12	<p>At what point does the line $3x=8y+16$ intercept $4y-7x=11$?</p> <p>A)(4,7) B)($\frac{-38}{11}, \frac{-145}{44}$) C)(34, $\frac{-195}{43}$) D)($\frac{38}{11}, 7$)</p>