

SIGMA

MIDDLE / JUNIOR HIGH MATHEMATICS LEAGUE

CONTEST NUMBER 1

GRADE 8

NAME: _____

SCORE : _____

TIME: 30 minutes

ANSWER COLUMN

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| <p>1. A recent report stated that the five most popular ice cream flavors are Vanilla (26%), Chocolate (12.9%), Neopolitan (4.8%), Strawberry (4.3%) and Cookies 'n' Cream (4%). If 1000 people were interviewed concerning their favorite flavor of ice cream, how many would expect to not list one of these 5 flavors?</p> | |
| <p>2. Let $x + y + z = 14$, $x + z = 4$, and $y + z = 12$. What is the value of z?</p> | |
| <p>3. A pound is 16 ounces. Nine pennies weigh one ounce. If Jack has 3.5 pounds of pennies and Jill has 5 pounds of pennies, how much more money (in dollars and cents) does Jill have than Jack?</p> | |
| <p>4. Let a and b be digits of a three-digit number "6ab" that is divisible by 4. Also, "6ab" is greater than 650. What is the sum of all the two-digit numbers "ab" for which these conditions are true?</p> | |
| <p>5. According to the Musgrave Pencil company the average pencil can be sharpened 17 times (if sharpened well) and will write 45,000 words (considering all short and long words). If a particular 500 page book averages 300 words per page, how many pencils are needed if the book is hand written?</p> | |
| <p>6. How many three-digit positive integers less than 150 have the units digit greater than the tens digit?</p> | |
| <p>7. A digital clock displays 1 or 2 digits for the hours and 2 digits for the minutes. Between the hours of 1:00 p.m. and 7:30 p.m. how many three-digit displays will represent a perfect square number?</p> | |
| <p>8. Columbus and the following towns are located along highway 30 in the U.S. Columbus is west of Ames and east of Lexington. Rock River is between Soda Springs and Ames. Lexington is west of Columbus but east of Rock River. Ames is west of Rock Falls. Which town is farthest west?</p> | |