5TH GRADE MATH

STANDARDS: 5.NBT.1, 5.NBT.2, 5.NBT.3a, 5.NBT.3b, 5.NBT.6, 5.OA.1, 5.OA.2

1. Which expression represents the phrase "4 times the sum of 9 and 6"?

A $4 \times (9 + 6)$

B $4 \times 9 + 6$

C $9 + 6 \times 4$

D $9 + (6 \times 4)$

 Key: A
5.OA.2-Write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them. For example, express the calculation "add 8 and 7, then multiply by 2" as $2 \times (8 + 7)$. Recognize that $3 \times (18932 + 921)$ is three times as large as $18932 + 921$, without having to calculate the indicated sum or product.

2. Members of the Garner High School yearbook committee need to put 1,344 student photos on 24 pages in the yearbook. They want to put the same number of student photos on each page. How many student photos will they put on each page in the yearbook?

A 51

B 52

C 56

D 61

 Key: C
5.NBT.6-Find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

3. Which expression is equivalent to 32?

A $(30 + 6) \div 3$

B $2 \times (9 + 7)$

C $9 \times (3 + 5)$

D $6 + 2 \times 4$

Key: B
5.OA.1-Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols.

4. Which equation correctly shows the relationship between the numbers 2,560 and 256?

A $2,560 = 1,000 \times (2 + 5 + 6)$

B $2,560 = 10 \times (2 + 5 + 6)$

C $2,560 = 10 \times (200 + 50 + 6)$

D $2,560 = \frac{1}{10} \times (200 + 50 + 6)$

Key: C

5.NBT.1, 5.OA.1-Recognize that in a multi-digit number, a digit in one place represents 10 times as much as it represents in the place to its right and 1/10 of what it represents in the place to its left.

5. Write two hundred three and forty-two thousandths in standard form and expanded form.

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_____

Key: The correct standard form answer is (203.042) and a correct expanded form answer is [(2 × 100) + (0 × 10) + (3 × 1) + (0 × ^{0}/10,) + (4 × ^{1}/100) + (2 × ^{1}/1000)].

5.NBT.3.a- Read and write decimals to thousandths using base-ten numerals, number names, and expanded form, e.g., $347.392 = 3 \times 100 + 4 \times 10 + 7 \times 1 + 3 \times (1/10) + 9 \times (1/100) + 2 \times (1/1000)$.

6. Which of the following comparison statements is true?

Select right answer.

○ A 3.909 = 3.990

○ B 3.099 > 3.99

◉ C 3.990 = 3.99

○ D 3.09 < 3.009

Key: C

5.NBT.A.3.B- Compare two decimals to thousandths based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons.

Rationale: 3.990 (three and 990 thousandths) is equal to 3.99 (three and 99 hundredths). The fraction 990/1000 is equivalent to the fraction 99/100, so the decimal representations are also equivalent.

7. What is the remainder when 436 is divided by 5?

Select the right answer.

A **6**

B **3**

C **1**

D **2**

Key: C

5.NBT.A.2-Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole number exponents to denote powers of 10.

Rationale: This problem can be solved by using long division, or by using quick mental math. 5 will go into 400 evenly because it ends with zero. 5 will also go into 30 evenly because it ends with zero. That leaves 6. The number 5 will go into 6 once with a remainder of 1.

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8. **Which of the following comparison statements is true?**

Select the right answer.

A **3.909 = 3.990**

B **3.099 > 3.99**

C **3.990 = 3.99**

D **3.09 < 3.009**

Key: C

5.NBT.A.3.B-Compare two decimals to thousandths based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons.

Rationale: 3.990 (three and 990 thousandths) is equal to 3.99 (three and 99 hundredths). The fraction 990/1000 is equivalent to the fraction 99/100, so the decimal representations are also equivalent.