

Directions: Answer the following question(s).

- 1 Maddie saved money to buy some new clothes. She saved \$25 each week for 12 weeks. She then bought 2 pair of pants for \$28 and \$33.

Which expression could be used to find the amount of money (m) that Maddie has left after buying her pants?

- A. $(12 + \$25) + (\$28 \times \$33) = m$
 B. $(12 + \$25) - (\$28 \times \$33) = m$
 C. $(12 \times \$25) + (\$28 + \$33) = m$
 D. $(12 \times \$25) - (\$28 + \$33) = m$

Master ID: 461258 Revision: 4

Correct: D

Rationale:

- A. This is the result of incorrectly solving by placing the + sign between the 12 and 25 instead of the \times sign, incorrectly placing the + sign between both sets of parentheses, and incorrectly placing a \times sign instead of a + sign between 28 and 33.
- B. This is the result of incorrectly solving by placing the + sign (instead of the \times sign) between the 12 and 25 and incorrectly placing a \times sign (instead of a + sign) between 28 and 33.
- C. This is the result of incorrectly solving by using the + sign in between both sets of parentheses.
- D. This is the result of correctly solving by multiplying the money she made (25×12), adding the two pant prices ($28 + 33$), and subtracting the amount she spent on pants from the amount she made.

Rubric: 1 Point(s)

Standards:

MGSE5.OA.2

- 2 Which number has a value for the digit 1 that is $\frac{1}{10}$ of the value of the digit 1 in the number 4,721,053?

- A. 4,172,305
 B. 4,712,035
 C. 7,420,513
 D. 7,425,103

Master ID: 2205962 Revision: 4

Correct: D

Rationale:

- A. The digit 1 is in a place that is 100 times greater instead of 10 times smaller (one-tenth).
- B. The digit 1 is 10 times greater in this number.
- C. This is the result of incorrectly placing the digit 1 in the tens place, thinking that the tens place is $\frac{1}{10}$.
- D. This number has the digit 1 in the hundreds place, which is $\frac{1}{10}$ of the place held by the digit 1 in the first number. 100 is $\frac{1}{10}$ of 1,000.

Rubric: 1 Point(s)

Standards:

MGSE5.NBT.1

Directions: Answer the following question(s).

- 3 In the number below, the underlined number is how much bigger than the number to its right?

4444.4

- A. $\frac{1}{10}$ times
 B. 4 times
 C. 10 times
 D. 40 times

Master ID: 3247012 Revision: 1
 Correct: C
 Rationale:
 A. Student(s) may have misread the question in the stem and thought how many times smaller the underlined number is compared to the number to its left.
 B. Student(s) may have chosen this option because the underlined number was a 4.
 C. Correct answer
 D. Student(s) may not have understood the question in the stem and chose this option because the underlined number was in the tens place and represented the number 40.
 Rubric: 1 Point(s)
 Standards:
 MGSE5.NBT.1

- 4 The expanded form of a number is shown below.

$$(6 \times 100) + (9 \times 1) + (7 \times .1) + (5 \times .001)$$

Which is the standard form of the number?

- A. 609.705
 B. 609.750
 C. 690.705
 D. 690.075

Master ID: 2205975 Revision: 4
 Correct: A
 Rationale:
 A. This is the correct standard form for the number.
 B. This is the result of incorrectly placing the 5 and the 0.
 C. This is the result of incorrectly placing the 9 and the 0.
 D. This is the result of incorrectly placing the 9 and the 0 in the whole number, and the 0 and the 7 in the decimal.
 Rubric: 1 Point(s)
 Standards:
 MGSE5.NBT.3a

Directions: Answer the following question(s).

- 5 Rayna is completing a project on the state of California. The chart shows the populations of some cities.

California City Populations

City	Estimate	Expanded Form
Los Angeles	3,900,000	3.9×10^6
San Diego	1,400,000	1.4×10^3
San Francisco	840,000	8.4×10^4
Redondo Beach	68,000	6.8×10^5

Rayna included 2 forms of the populations, the estimated standard form and the expanded form of her estimated number. Rayna only wrote 1 correct expanded form. For which city did Rayna correctly write the expanded form?

- A. Los Angeles
- B. San Diego
- C. San Francisco
- D. Redondo Beach

Master ID:	577766	Revision:	3
Correct:	A		
Rationale:			
A. This is the correct answer. The decimal point moves to the right six times when you multiply by 10^6 since six is the value of the exponent.			
B. This is the result of incorrectly finding the answer by counting the zeroes after the second comma rather than moving the decimal point over for the number of spaces.			
C. This is the result of incorrectly finding the answer by counting the zeroes in the number and not moving the decimal point over for the number of spaces.			
D. This is the result of incorrectly finding the answer by counting the total number of digits in the number and not moving the decimal point over for the number of spaces.			
Rubric:	1 Point(s)		
Standards:	MGSE5.NBT.2		

- 6 Tracy has a cat that weighs 3.25 kilograms. She wants to figure out the weight measured in grams by multiplying by 10^3 . What is the weight of Tracy's cat in grams?

- A. 0.325 grams
- B. 32.5 grams
- C. 325 grams
- D. 3,250 grams

Master ID:	305020	Revision:	5
Correct:	D		
Rationale:			
A. This is the result of moving the decimal to the left instead of the right one place because the base number 10 has one zero.			
B. This is the result of knowing that multiplying by a power of ten means to move the decimal point to the right, but moving the decimal only one place because the base number 10 has one zero.			
C. This is the result of knowing that multiplying by a power of ten means to move the decimal point to the right, but moving the decimal over only 2 places instead of 3 as indicated by the exponent.			
D. This is the result of knowing that multiplying by a power of ten means to move the decimal point to the right and correctly moving the decimal three places as indicated by the exponent.			
Rubric:	1 Point(s)		
Standards:	MGSE5.NBT.2		

Directions: Answer the following question(s).

- 7 Last night it rained forty-three hundredths of an inch. What is this amount of rainfall in standard form?
- A. 4.300
 - B. 4.03
 - C. 0.43
 - D. .043

Master ID: 3259318 Revision: 1
Correct: C
Rationale:
A. Student(s) may have understood problem to be four and three hundred. Therefore, student(s) may have thought to write 4, then place the decimal, and then place 300 after the decimal point.
B. Student(s) may have incorrectly placed the digit 4 as a whole number and then placed the digit 3 in the hundredths place.
C. Correct answer
D. Student(s) may have known to place 43 to the right of the decimal point, but may have incorrectly placed the digit 4 in the hundredths place since the word "hundredths" appears in the problem.
Rubric: 1 Point(s)
Standards:
MGSE5.NBT.3a

- 8 In which of the following does the standard form and word form represent the same number?
- A. 305.71; three hundred five and seventy-one hundredths
 - B. 350.71; three hundred five and seventy-one hundredths
 - C. 305.710; three hundred fifty and seventy-one hundredths
 - D. 350.071; three hundred fifty and seventy-one hundredths

Master ID: 305064 Revision: 4
Correct: A
Rationale:
A. The standard form and the word form represent the same number.
B. This 5-digit number is not represented correctly in word form.
C. This 5-digit number is not represented correctly in word form, and there is an extra 0 in the thousandths place that is not in the written form.
D. There is an extra 0 in the number that is not represented in word form.
Rubric: 1 Point(s)
Standards:
MGSE5.NBT.3a

Directions: Answer the following question(s).

9 Evaluate.

$$14 \times (2 + 3)$$

- A. 5
- B. 28
- C. 31
- D. 70

Master ID:	3247409	Revision:	1
Correct:	D		
Rationale:	A. Student(s) may have only solved the problem in the parentheses. B. Student(s) may not have known how to evaluate expressions with parentheses. Student(s) may have only multiplied 14 by 2. C. Student(s) may have made a mistake by solving the expression from left to right. D. Correct answer		
Rubric:	1 Point(s)		
Standards:	MGSE5.OA.1		

10 What is the value of this expression?

$$\{50 - [2 + (13 - 7) \times 3] + 9\} \times 2$$

- A. 70
- B. 78
- C. 84
- D. 94

Master ID:	304937	Revision:	4
Correct:	B		
Rationale:	A. This is the result of ignoring the regular order of operations within the brackets by adding 2 to the value inside the parentheses ($13 - 7 = 6$) to get 8, subtracting the product of 8 and 3 from 50, correctly applying the braces by adding 9, and multiplying the result by 2. B. First subtract 7 from 13 within the parentheses (6), multiply 6 by 3, and add 2 to the result to get 20 within the brackets. Subtract 20 from 50, add 9 within the braces, and multiply the result (39) by 2. C. This is the result of ignoring the brackets and braces, subtracting 2 from 50 first, adding the result to the product of 6 and 3, and finally adding the product of 9 and 2. D. This is the result of multiplying 2 times 3 within the brackets first and then adding 6, resulting in (50 minus 12 plus 9) times 2.		
Rubric:	1 Point(s)		
Standards:	MGSE5.OA.1		

Directions: Answer the following question(s).

11 Round 341.7425 to the nearest THOUSANDTH.

- A. 341.74
- B. 341.742
- C. 341.743
- D. 342

Master ID:	3269398	Revision:	1
Correct:	C		
Rationale:			
A.	Student(s) may have rounded to the nearest hundredth rather than the nearest thousandth.		
B.	Student(s) may have incorrectly rounded the number in the thousandths place.		
C.	Correct answer		
D.	Student(s) may have rounded to the nearest whole number rather than the nearest thousandth.		
Rubric:	1 Point(s)		

12 Round 26.084 to the nearest tenth.

- A. 26
- B. 26.01
- C. 26.1
- D. 30

Master ID:	3273029	Revision:	1
Correct:	C		
Rationale:			
A.	Student(s) may have thought that since the tenth place was a 0 you would just drop all of the numbers after the decimal place.		
B.	Student(s) may have confused the tenth place with the hundredth place.		
C.	Correct answer		
D.	Student(s) may have thought that rounding to the tenth place was the same as rounding to the nearest ten. Therefore since 26 is greater than 25 they rounded up to 30.		
Rubric:	1 Point(s)		

13 Compare the numbers 1,725 and 5,712. Which statement is true?

- A. The value of the digit 2 in 1,725 is 10 times greater than the value of the digit 2 in 5,712.
- B. The value of the digit 1 in 1,725 is 10 times greater than the value of the digit 1 in 5,712.
- C. The value of the digit 7 in 1,725 is 10 times greater than the value of the digit 7 in 5,712.
- D. The value of the digit 2 in 5,172 is 10 times greater than the value of the digit 2 in 1,725.

Master ID:	2205961	Revision:	3
Correct:	A		
Rationale:			
A.	This is the result of recognizing the value of the 2 in 1,725 is 2×10 while in 5,712 has a value of 2×1 .		
B.	This is the result of incorrectly comparing 1,000 to 10 and thinking that 10×10 is 1,000.		
C.	This is the result of not recognizing that the 7 is in the hundreds place in both numbers, and so it has the same value in both numbers.		
D.	This is the result of recognizing that the values of the digit 2 is different in each number but reversing the values. 2 is not 10 times greater than 20.		
Rubric:	1 Point(s)		
Standards:	MGSE5.NBT.1		

Directions: Answer the following question(s).

- 14 Cole wrote the number shown.

375,819

Lindsay used the same digits to write a number in which the value of the digit 7 is $\frac{1}{10}$ of the value of the digit 7 in Cole's number. Which number can be the one Lindsay wrote?

- A. 357,819
- B. 375,918
- C. 581,793
- D. 785,839

Master ID: 305002 Revision: 5

Correct: A

Rationale:

- A. This is the result of understanding that 7,000 is $\frac{1}{10}$ the value of 70,000.
- B. This is the result of identifying a number in which the 7 has the same value as the 7 in the first number.
- C. This is the result of identifying a number in which 7 is in the hundreds place; 700 has a value that is $\frac{1}{100}$ of 70,000.
- D. This is the result of identifying a number in which the 7 is in the hundred thousands place; 700,000 is 10 times greater than 70,000.

Rubric: 1 Point(s)

Standards:

MGSE5.NBT.1

- 15 A factory rents 40 storage units. Each unit holds 1,000 boxes.

How many boxes does the factory have in the storage units?

- A. 4×10^2
- B. 4×10^3
- C. 4×10^4
- D. 4×10^5

Master ID: 3817045 Revision: 1

Correct: C

Rationale:

- A. Student might have added two more zeros to 40 to get an answer in the thousands
- B. The student may have selected the answer equivalent to multiplying by 1,000 without considering the place value of the 4.
- C. *Correct Answer*, Student correctly calculated the total number of storage boxes in units and express the numbers using exponents.
- D. The student might have selected the largest answer, or might not understand exponential notation.

Standards:

MGSE5.NBT.2

Directions: Answer the following question(s).

16 Rosaria filled some cups with different amounts of water, as shown below.

- Red cup: 0.046 liters
- Blue cup: 0.05 liters
- Green cup: 0.20 liters
- Yellow cup: 0.6 liters

Which cup has the least amount of water?

- A. the red cup
- B. the blue cup
- C. the green cup
- D. the yellow cup

Master ID:	305084	Revision:	4
Correct:	A		
Rationale:			
A. 0.046 is the smallest value.			
B. This is the result of incorrectly comparing 0.05 as smaller than 0.046.			
C. This is the result of incorrectly comparing 0.20 as smaller than 0.046.			
D. This is the result of incorrectly comparing 0.6 as smaller than 0.046.			
Rubric:	1 Point(s)		

17 25.861

Which describes the number in word form?

- A. twenty-five and eight six one
- B. twenty-five eight hundred sixty-one
- C. twenty-five eight hundred sixty-one thousand
- D. twenty-five and eight hundred sixty-one thousandths

Master ID:	3746518	Revision:	1
Correct:	D		
Rationale:			
A. The student may not understand place value and basic decimal concepts. The student simply listed the digits following the decimal point with no regard to place value.			
B. The student may not understand decimals and decimal place value vocabulary. The student identified the decimal as two whole number values.			
C. The student may not understand place value vocabulary or may not be attending to precision. The student used the whole number term thousand instead of the decimal term thousandths. The student also neglected to use the word and to indicate the division between whole numbers and decimals.			
D. <i>Correct Answer</i> ; The student correctly identified the word form of the decimal 25.861.			
Standards:			
MGSE5.NBT.3			
MGSE5.NBT.3a			

Directions: Answer the following question(s).

18



Which describes the value of Point m ?

- A. fifty-eight and nine
- B. fifty-nine and nine tenths
- C. fifty-eight and nine tenths
- D. fifty-eight and eight hundredths

Master ID: 3746459 Revision: 1

Correct: C

Rationale:

- A. The student may be having difficulty expressing decimals in different forms or may not be attending to precision. The student reported the last whole number and the number of ticks before the next whole number. The student did not identify that point m has a decimal value.
- B. The student may not be attending to precision. The student may have chosen 59 as the whole number because the point was closer to 59 than 58.
- C. *Correct Answer*; The student can identify and express decimals in different forms. The student correctly identified the point on the line as having a value of 58.9.
- D. The student may be having difficulty with decimal place values or may not be attending to precision. The student confused tenths with hundredths.

Standards:

MGSE5.NBT.3
MGSE5.NBT.3a