SBACC Grade 5 Analysis of Questions for Claim 1: Domain of Number and Base Ten

Standard DOK Level	Evidence	Question
DOK Level 1 5.NBT.A.2	represents powers of 10 by using whole-number exponents	Enter 10,000 as a power of 10.
DOK Level 1 5.NBT.A.2	represents powers of 10 by using whole-number exponents	What power of 10 makes this expression equal to 5000? $5 \times 10^{\square}$
DOK Level 1 5.NBT.A.3a	reads and writes decimals to the thousandths using base-ten numerals, number names, and expanded form.	Which expression is equal to 473.923? A. $(4 \times 100) + (7 \times 10) + (3 \times 1) + (9 \times \frac{1}{1}) + (2 \times \frac{1}{10}) + (3 \times \frac{1}{100})$ B. $(4 \times 100) + (7 \times 10) + (3 \times 1) + (9 \times 10) + (2 \times 100) + (3 \times 1{,}000)$ C. $(4 \times 100) + (7 \times 10) + (3 \times 1) + (9 \times \frac{1}{10}) + (2 \times \frac{1}{100}) + (3 \times \frac{1}{1000})$ D. $(4 \times 100{,}000) + (7 \times 10{,}000) + (3 \times 1{,}000) + (9 \times 100) + (2 \times 10) + (3 \times 1)$
DOK Level 1 5.NBT.A.3a	reads and writes decimals to the thousandths using base-ten numerals, number names, and expanded form.	Enter a number equal to the value of the expression. $(4 \times 100) + (7 \times 10) + (3 \times 1) + (9 \times \frac{1}{10}) + (2 \times \frac{1}{100}) + (3 \times \frac{1}{1000})$
DOK Level 1 5.NBT.A.3a	reads and writes decimals to the thousandths using base-ten numerals, number names, and expanded form.	Enter a number equal to the value of the expression. $(4 \times 100) + (3 \times 1) + (2 \times \frac{1}{100}) + (7 \times 10) + (9 \times \frac{1}{10}) + (3 \times \frac{1}{1000})$
DOK Level 1 5.NBT.A.3a	reads and writes decimals to the thousandths using base-ten numerals, number names, and expanded form.	Enter a number equal to the value of the expression. (7 x 10) + (4 x 1) + (5 x 0.1) + (3 x 0.01)
DOK Level 2 5.NBT.A.3a	reads and writes decimals to the thousandths using base-ten numerals, number names, and expanded form.	Determine whether each expression is equivalent to 638.4. Select Yes or No for each expression. 63 tens + 8 ones + 4 tenths — Yes / No 63 hundreds + 8 ones + 4 tenths — Yes / No 6 hundreds + 3 tens + 84 tenths — Yes / No 6 hundreds + 38 ones + 4 tenths — Yes / No
DOK Level 2 5.NBT.A.3b	compares two decimals to the thousandths by using >, =, and < symbols.	Select the symbol (<, >, or =) that correctly compares each pair of numbers. 0.03 □ 0.3 — < / > / = 187.36 □ 187.35 — < / > / =
DOK Level 2 5.NBT.A.3b	compares two decimals to the thousandths by using >, =, and < symbols.	Which number makes the comparison true? 3.45 < □ a) 3.249 b)3.38 c)3.436 d)3.47
DOK Level 2 5.NBT.A.3b	compares two decimals to the thousandths by using >, =, and < symbols.	Determine if each comparison is true or false. Select True or False for each comparison. 4.3 = 4.300 — True / False 48.2 > 4.829 — True / False 56.78 < 56.760 — True / False
DOK Level 1 5.NBT.A.4	rounds decimals to the nearest whole number, tenth, hundredth or thousandth.	Round 45.643 to the nearest hundredth. Enter your answer in the response box.
DOK Level 1 5.NBT.B.5	multiplies multi-digit whole numbers.	Enter the product. 4 × 39 or the problem could be written vertically. Problems up to 4-digit times 2-digit.
DOK Level 1	determines whole-number quotients of whole numbers with	Enter the quotient. 335 ÷ 5

5.NBT.B.6	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.	Or Enter the quotient. $25\overline{)3375}$
DOK Level 1 5.NBT.B.6	determines 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.	Which equation has the same unknown value as 228 ÷ 12 = □? A. 228 × □ = 12 B. 12 × □ = 228 C. □ ÷ 12 = 228 D. □ ÷ 228 = 12
DOK Level 2 5.NBT.B	determines 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.	Enter the unknown value in the equation. 345 ÷ □ = 69
DOK Level 1 5.NBT.B.7	adds, subtracts, multiplies, and divides decimals to the hundredths using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.	Enter the sum. 16 + 5.67 + 8.3 = Or Enter the difference. 20.50 – 3.65 = Or Enter the product. 7.86 × 3 =
DOK Level 1 5.NBT.B.7	adds, subtracts, multiplies, and divides decimals to the hundredths using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.	Which expression is equal to 16.25 ÷ 2.5? A. 1.625 ÷ 25 B. 16.25 ÷ 25 C. 162.5 ÷ 25 D. 1625 ÷ 25

There are several problems below. Select the problem(s) whose solution is 225. Choose **all** that apply.

- ◯ A. 15 x 15 =
- ◯ B. 4550 ÷ 25 =
- ◯ C. 2250 ÷ 10=
- ◯ D. 2700 ÷ 12 =
- ◯ E. 25 x 5 =
- ◯ F. 35 x 15 =

Standard(s) 5.NBT.5, 5.NBT.6	Mathematical Practices: 1, 6	DOK 1	Difficulty: M

SBACC Grade 5 Analysis of Questions for Claim 2-4 Domain of Number and Base Ten

Claim 3:

1. Freemont Elementary School has won a writing contest. The school is taking a field trip to a museum. There is an average of 145 students in each grade. Each grade has 5 teachers and there are 6 grades at the school.

   The 5th grade class has to order the busses. Each bus holds a maximum of 42 people. Students and teachers need to have a seat on the bus. The class has determined they need 21 busses. One student is arguing with this value.

   Part A. Identify the statement in Scott's argument that has incorrect reasoning or inaccurate calculations.

1. Scott says that 21 buses are not enough.	◯ True	◯ False
2. He argues 21 buses will hold a maximum of 882.	◯ True	◯ False
3. The class needs space for 870 people.	◯ True	◯ False
4. The school needs to order 22 buses.	◯ True	◯ False

   Part B. What is the total number of people that are taking this trip?

2. Nina says, "If you multiply a 2-digit number and a 1-digit number, you get a 3-digit number."

   Enter numbers in the table to give one example of when Nina's claim is true, and another example that shows her claim is not always true.

Example of when –	**2-digit number**	**1-digit number**	**3-digit product**
Nina's claim is true			
Nina's claim is **not** true			

3. Gil and Nina are comparing the number 3 and 12.
   Gil says, "12 is 9 more than 3."
   Nina Says, "12 is 4 times more than 3."

   What is true about Gil and Nina's statements?
   a. Nina is correct and Gil is not. You should multiply to compare the numbers.
   b. Gil is correct and Nina is not. You should add to compare the numbers.
   c. They are both correct. They just compared using different operations.
   d. Neither one is correct. You have to compare like this? $12 > 3$.

4. 32 x 45 is greater than both 32 and 45. When is a x b between a and b?
   Select **all** that apply.
   a. When $a > 1$ and $b > 1$
   b. When $a < 1$ and $b > 1$
   c. When $b < 1$ and $a > 1$
   d. When $a < 1$ and $b < 1$

5. Mr. Spivak's class was finding the volume of a right rectangular prism with dimensions 20 cm, 45 cm, and 80 cm. Brigit said, "I tried two ways of multiplying the dimensions and got different answers. I can't figure out what went wrong." Here is her explanation.

First method:	**Second method:**
Step 1: I distributed.	Step 1: I broke apart the numbers.
$20 \times (45 \times 80) = (20 \times 45) + (20 \times 80)$	$20 \times 45 \times 80 = (2 \times 10) \times (5 \times 9) \times (8 \times 10)$
Step 2: I multiplied 20 by 45 and 20 by 80.	Step 2: I rearranged the numbers.
$= 900 + 1600$	
Step 3: Then I added.	Step 3: Then I multiplied everything.
$= 2500$	$= 72 \times (10 \times 100) = 72{,}000$

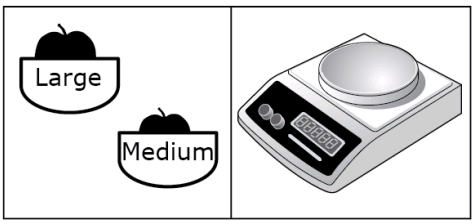
Which method has an error? Which step has the first error in that method**?**

Claim 4:

6. A school spends $2.40 on every lunch it serves in the cafeteria and $0.30 for each carton of milk.
   250 people at the school get a lunch each day
   120 people take a carton of milk

   Which expression represents the amount of money the school spends altogether on lunches and milk each day?
   A. 250 x 2.40 + 120 x 0.30
   B. 250 x 0.30 + 120 x 2.40
   C. 250 x (2.40 + 0.30)
   D. 120 x (2.40 + 0.30)

7. Molly and Sam need about 2 pounds of apples for a pie. Medium apples cost $0.45 each. Large apples cost $0.65 each.
   Molly says: "Let's buy the medium apples, they are less expensive."
   Sam says: "I think it's less expensive to buy large apples. They are more expensive but we won't have to buy as many of them."



   Analyze both approaches. You can use the scale to weigh the apples.
   Use the drop down menus to complete each statement

   Statement A:
   Molly and Sam would need [1, 2, 3, 4, 5, 6, 7, 8] medium apples or [1, 2, 3, 4, 5, 6, 7, 8] large apples for the pie.

   Statement B:
   The number of medium apples that would be needed cost [more, less] than the number of large apples that would be needed. So [Molly, Sam] is correct.