

# STANDARDS BASED MCAS

## Primary Math

- You are viewing sample chapters.
- Review materials organized by curriculum standard.
- Instruction, not fill in the blanks.
- Basic skills practice.
- Internet resources aligned to curriculum standards.



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## Strands and Standards

### Symbols and Concepts

When you're learning about the Curriculum Frameworks on which the MCAS Tests are based, it's helpful to know what some of the terms and symbols for representing those terms are.

The Curriculum Frameworks have been developed by Massachusetts teachers and administrators over many years. We all want you to graduate with a good education and skills that will be useful to you in your adult life.

Frameworks are organized into strands and standards. You can think of a strand as a thread that goes through a whole piece of material or fabric that holds it all together. A standard is an expectation. It tells you the individual skills within each strand that you will need to understand.

In Math, in all grades, there are five strands or threads that hold the mathematics curriculum together.

They are:

N - Number Sense and Operations
P - Patterns, Relations, and Algebra
G - Geometry
M - Measurement
D - Data Analysis, Statistics and Probability

If you see a number like this next to a problem, it is telling you what strand and standard we are talking about. You will find these numbers on worksheets you teacher will give you.

4.P.2 this means it is a problem based on the 4<sup>th</sup> grade standards, from the Patterns, Relations and Algebra strand and the second standard in that strand. On the next pages you will see an outline of the strands and standards.

The Strands and Standards in Visual Outline  
There are Five Math Strands

**Strand One: Number Sense and Operations**

Students engage in problem solving, communicating, reasoning, connecting, and representing as they:

Standard One: 4.N.1 Exhibit an understanding of the base ten number system by reading, modeling, writing, and interpreting whole numbers to at least 100,000, demonstrating an understanding of the values of the digits; and comparing and ordering the numbers.



Standard Two: 4.N.2 Represent, order, and compare large numbers (to at least 100,000) using various forms, including expanded notation, e.g.,  $853 = 8 \times 100 + 5 \times 10 + 3$ .



Standard Three: 4.N.3 Demonstrate an understanding of fractions as parts of unit wholes, as parts of a collection, and as locations on the number line.



Standard Four: 4.N.4 Select, use, and explain models to relate common fractions and mixed numbers ( $\frac{1}{2}$ ,  $\frac{1}{3}$ ,  $\frac{1}{4}$ ,  $\frac{1}{5}$ ,  $\frac{1}{6}$ ,  $\frac{1}{8}$ ,  $\frac{1}{10}$ ,  $\frac{1}{12}$ , and  $1\frac{1}{2}$ ), find equivalent fractions, mixed numbers, and decimals, and order fractions.



Standard Five: 4.N.5 Identify and generate equivalent forms of common decimals and fractions less than one whole (halves, quarters, fifths, and tenths.).



Standard Six: 4.N.6 Exhibit an understanding of the base ten number system by reading, naming, and writing decimals between 0 and 1 up to the hundredths.



Standard Seven: 4.N.7 Recognize classes (in particular, odds, evens; factors or multiples of a given number; and squares) to which a number may belong, and identify the numbers in those classes. Use these in the solution of problems.



Standard Eight: 4.N.8 Select, use, and explain various meanings and models of multiplication and division of whole numbers. Understand and use the inverse relationship between the two operations.

Standard Nine: 4.N.9 Select, use, and explain the commutative, associative, and identity properties of operations on whole numbers in problem situations, e.g.,  $37 \times 46 = 46 \times 37$ ,  $(5 \times 7) \times 2 = 5 \times (7 \times 2)$ .



Standard Ten: 4.N.10 Select and use appropriate operations (addition, subtraction, multiplication, and division) to solve problems, including those involving money.



Standard Eleven: 4.N.11 Know multiplication facts through  $12 \times 12$  and related division facts. Use these facts to solve related multiplication problems and compute related problems e.g.,  $3 \times 5$  is related to  $30 \times 50$ ,  $300 \times 5$ , and  $30 \times 500$ .



Standard Twelve: 4.N.12 Add and subtract (up to five digit numbers and multiply (up to 3 digits by two digits) accurately and efficiently. The 4th grade MCAS Test will assess multiplication of only up to two digits by two digits.



Standard Thirteen: 4.N.13 Divide up to a three-digit whole number with a single-digit divisor (with or without remainders) accurately and efficiently. Interpret any remainders.



Standard Fourteen: 4.N.14 Demonstrate in the classroom an understanding of and the ability to use the conventional algorithms for addition and subtraction (up to five-digit numbers), and multiplication (up to three digits by two digits).



Standard Fifteen: 4.N.15 Demonstrate in the classroom an understanding of and the ability to use the conventional algorithm for division of up to a three-digit whole number with a single-digit divisor (with or without remainders).



Standard Sixteen: 4.N.16 Round whole numbers through 100,000 to the nearest 10, 100, 1000, 10,000, and 100,000.



Standard Seventeen: 4.N.17 Select and use a variety of strategies (e.g., front-end, rounding, and regrouping) to estimate quantities, measures, and the results of whole-number computations up to three-digit whole numbers and amounts of money to \$1000, and to judge the reasonableness of the answer.



Standard Eighteen: Use concrete objects and visual models to add and subtract common fractions.

## **Strand Two: Patterns, Relations and Algebra**

Students engage in problem solving, communicating, reasoning, connecting, and representing as they:

Standard One: 4.P.1 Create, describe, extend, and explain symbolic (geometric) and numeric patterns, including multiplication patterns like 3, 30, 300, 3000, .....



Standard Two: 4.P.2 Use symbol and letter variables (e.g.,  $\Delta$ ,  $x$ ) to represent unknowns or quantities that vary in expressions and in equations or inequalities (mathematical sentences that use  $=$ ,  $<$ ,  $>$ ).



Standard Three: 4.P.3 Determine values of variables in simple equations, e.g.,  $4106 - \nabla = 37$ ;  $5 = \bigcirc + 3$  and  $\square - \bigcirc = 3$ .



Standard Four: 4.P.4 Use pictures, models, tables, charts, graphs, words, number sentences, and mathematical notations to interpret mathematical relationships.



Standard Five: 4.P.5 Solve problems involving proportional relationships, including unit pricing e.g., four apples cost 80¢, so one apple costs 20¢) and map interpretation (e.g., one inch represents five miles, so two inches represent ten miles).



Standards Six: 4.P.6 Determine how change in one variable relates to a change in a second variable, e.g., input-output tables.

## **Strand Three: Geometry**

Students engage in problem solving, communicating, reasoning, connecting, and representing as they:

Standard One: 4.G.1 Compare and analyze attributes and other features (e.g., number of sides, faces, corners, right angles, diagonals, and symmetry) of two- and three-dimensional geometric shapes.



Standard Two: 4.G.2 Describe, model, draw, compare, and classify two- and three-dimensional shapes, e.g., circles, polygons – especially triangles and quadrilaterals – cubes, spheres, and pyramids.



Standard Three: 4.G.3 Recognize similar figures.

Standard Four: 4.G.4 Identify angles as acute, right, or obtuse.



Standard Five: 4.G.5 Describe and draw intersecting, parallel, and perpendicular lines.



Standard Six: 4.G.6 Using ordered pairs of numbers and/or letters, graph, locate, identify points, and describe paths (first quadrant).



Standard Seven: 4.G.7 Describe and apply techniques such as reflections (flips), rotations (turns), and translations (slides) for determining if two shapes are congruent.



Standard Eight: 4.G.8 Identify and describe line symmetry in two-dimensional shapes.



Standard Nine: 4.G.9 Predict and validate the results of partitioning, folding, and combining two- and three-dimensional shapes.

### **Strand Four: Measurement:**



Standard One: 4.M.1 Demonstrate an understanding of such attributes as length, area, weight, and volume, and select the appropriate type of unit for measuring each attribute.



Standard Two: 4.M.2 Carry out simple unit conversions within a system of measurement, e.g., hours to minutes, cents to dollars, yards to feet or inches, etc.



Standard Three: 4.M.3 Identify time to the minute on analog and digital clocks using a.m. and p.m. Compute elapsed time using a clock (e.g., hours and minutes since...) and using a calendar (e.g., days since...)



Standard Four: 4.M.4 Estimate and find area and perimeter of a rectangle, triangle, or irregular shape using diagrams, models, and grids or by measuring.



Standard Five: 4.M.5 Identify and use appropriate metric and English units and tools (e.g. ruler, angle ruler, graduated cylinder, thermometer) to estimate, measure, and solve problems involving length, area, volume, weight, time, angle size, and temperature.

## **Strand Five: Data Analysis, Statistics, and Probability**

Students engage in problem solving, communicating, reasoning, connecting, and representing as they:

Standard One: 4.D.1 Use interviews, surveys, and observations to gather data about themselves and their surroundings.



Standard Two: 4.D.2 Organize, classify, represent, and interpret data using tallies, charts, tables, bar graphs, pictographs, and Venn diagrams; interpret the representations.



Standard Three: 4.D.3 Formulate inferences (draw conclusions) and make educated guesses (conjectures) about a situation based on information gained from data.



Standard Four: 4.D.4 Decide which outcomes of experiments are most likely.

Now that you've read through the strands and standards, use the space below to jot down words you didn't understand. Leave space to write out the meanings of the words as you discuss them in class or use the dictionary to define them. Knowing the vocabulary of the strands and standards, and of mathematics, will help you pass the exams.

## Pretest for Strand One - Number Sense and Operations

- 1) If a truck filled with 1,642 potatoes bounces down a bumpy road and 1,321 potatoes bounce out, how many potatoes are left?
  - a)  $1,642 + 1,321 = P$
  - b)  $1,321 - P = 1,642$
  - c)  $P = 1,642 - 1,321$
  - d)  $1,642 + P = 1,321$
  
- 2) What number equals the total number of apricots in a shipment with 3 cartons of apricots each containing 50, 37 and 12 apricots?
  - a)  $50 + 37 - 12 = A$
  - b)  $37 = A - 12 + 50$
  - c)  $50 + 37 + 12 = A$
  - d)  $12 - 50 = A + 37$
  
- 3) 7 people were enrolled in a karate course. 1 made it to black belt. How many martial artists were left with other colors for their belts?
  - a)  $7 + 1 = C$
  - b)  $7 - 1 = C$
  - c)  $1 - 7 = C$
  - d)  $C + 7 = 1$
  
- 4) There are 6 teaspoons of salt in a bowl. You are adding 1 teaspoon to follow the recipe. How many teaspoons of salt did the recipe require altogether?
  - a)  $T + 1 = 6$
  - b)  $6 + 1 = T$
  - c)  $T = 1 - 6$
  - d)  $6 - 1 = T$

- 5) 7 potato chips remained in the jar after the party. If 321 were eaten, what was the total number of potato chips at the start of the party?
- a)  $7 - J = 321$
  - b)  $321 - 7 = J$
  - c)  $7 - 321 = J$
  - d)  $321 + 7 = J$
- 6) 1,000 football fans bought Cokes at the game. The remainder of the fans had Pepsi. How many had Pepsi if attendance at the game was 1,547?
- a)  $1,547 - 1,000 = F$
  - b)  $1,000 - 1,547 = F$
  - c)  $1,547 + 1,000 = F$
  - d)  $F - 1,000 = 1,547$
- 7) I am a number. When you switch my 1,000 digit with my hundred digit, I am 8,901. What am I?
- a) 5,801
  - b) 5,981
  - c) 9,801
  - d) 3,910
- 8) Using expanded notation rules, what is this number? Six hundreds, 7 tens, 4 ones.
- a) 764
  - b) 67.4
  - c) 674
  - d) 6,741
- 9) What will the number 465 look like if you use blue disks for hundreds, red disks for tens and white disks for ones.
- a) 6 red, 4 blue, 5 white
  - b) four red disks, six white, five blue
  - c) six white disks, four red, 5 blue
  - d) 4 blue, 6 red, 5 white
- 10) Which does not equal 942?
- a) 8 hundreds, 14 tens, 2 ones
  - b) 9 hundreds, 4 tens, 2 ones
  - c) 9 hundreds, 3 tens, 12 ones
  - d) 9 hundreds, 14 tens, 12 ones

## Strand # One: Number Sense and Operations

In this book we will tell you what the strands and standards say, discuss what the strands are asking you to know, and give you examples of problems that require mastery of those strands. On MCAS Tests, students in the Fourth Grade are asked to answer multiple choice and open response questions that represent knowledge in each of the five strands. In this first strand, Number Sense and Operations, students engage in problem solving, communicating, reasoning, connecting and representing as they:

- Extend multiplication and division to larger-digit numbers. Use models to explore multiplication and division with fractions.
- Investigate number theory concepts, prime and composite numbers. investigate the concept of ratio, add and subtract decimals.
- Explore numbers less than zero, investigate the number line, investigate the distributive property of multiplication over addition.

For this lesson, you will need:

- a large roll of colored tape
- a cleared space of floor in your classroom
- scissors

You will also need

- a medium sized jar or box for each student in the class
- and a large number of colored disks

You can use buttons, pieces of paper cut in round shapes or tiddly winks. Paper stores sometimes have metallic paper disks already cut out. Your disks should come in four colors. For the purposes of this book, we'll say that the colors are blue (for thousands), red (for hundreds), green (for tens) and white (for ones). You should have many more white disks than any other color.

Students should have a healthy collection of all colors of disks in their boxes or jars. On the surface of student desks, strips of tape should be placed on the desktop to divide space into four places. The idea is to have a

thousands column, hundreds column, tens and ones column marked off on each student's desktop.

On the cleared section of floor, you should create a bigger example of what students will see on the desktops with the tape. There will be columns for each place value. If possible, the tape can remain all year and be refreshed as needed.

On another section of floor, a number line should be created. You should have a large zero roughly in the middle. Students will be learning positive and negative numbers on this number line. Eventually, you will also have a large x and y axis graph on the floor also.

If you are fortunate and have a playground or large section of pavement available outside, keep a supply of sidewalk chalk available for outdoor activities that stress place value. The concept of place value must be thoroughly understood before more advanced mathematics can be attempted.

### A Brief History of Numbers

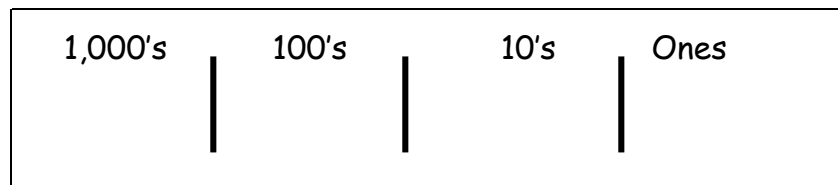
Man began his relationship with numbers with the counting numbers. 1, 2, 3, 4 and so on. Even early man needed to know how many days away the food supply could be found, or how many days were left before food would run out and he needed to hunt again.

It was the Greeks who first began to represent number ideas with objects. They used pebbles. For one, they would put down a pebble on the table. Place one of your white disks on the desk and think about the Greeks for a minute. It's thought that the concept of zero began in China.

Open Response Practice: Explain how the Greeks might have described a loss of three sheep from a herd. The herd had 9 sheep to begin with and the shepherd lost three of them. How would he describe this to another shepherd? Use the white disks you have in your boxes and describe this to your neighbor or write a little story about it.

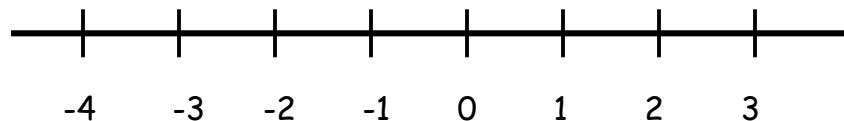
The Romans developed a complicated system like the Greeks. It was difficult to use and caused confusion. It wasn't until the Hindu-Arabic system was developed that things started to make sense. This system was based on ten digits, 0 through 9. As large numbers were needed the zero was used as a placeholder. When someone counted 1, 2, 3, 4, 5, 6, 7, 8, 9 and then needed to go further, he put down a 1 with a zero next to it to hold the place. This gave him the number 10.

Go to the playground or parking lot for this exercise. We want you to be completely sure you understand the concept of place value. Use sidewalk chalk and draw three long parallel lines (side by side). These are your place value columns just like the ones on your desks.



At the top of the column on the left, write "1,000's". Next write "100's", then 10's and on the right write "ones". Roll a single die, let's say you roll a 6. Have six students stand in the ones column. Now roll again. Let's say it's a 5. Now you need to move one student into the tens column and leave only one in the ones column. Why? Keep rolling the die until you have at least three students in the hundreds column. By now, you should have a good sense of the concept of place value, why zero is used as a place holder.

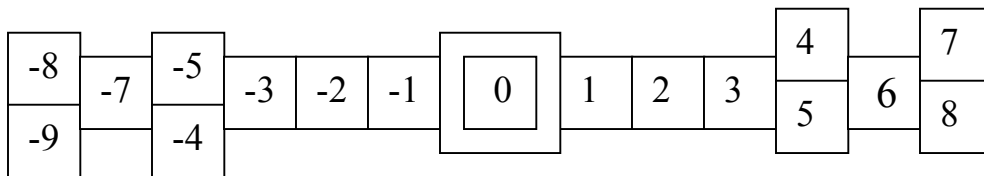
Look at the number line below. We can represent numbers that are positive and negative. Zero marks the point at which the number line changes from negative to positive. If you understand the number line, you can add and subtract.



Put the first finger of your right hand on the zero. As you count "one" move your finger one place to the right, "two" then again one place to the

right, "three" another. This is counting "up" on the positive side of the number line. Put your finger back on the zero. Pretend you are subtracting or taking away beans from a jar. One space to the left to the negative or minus 1, another space to the left, minus 2 and so on. These are negative numbers and a way to subtract.

About negative numbers: you can learn about positive and negative numbers by playing hopscotch. You will need two players. You'll need a spinner that has spaces marked -3, -2, -1, 0, 1, 2, 3. You will need large colored squares to place on the floor, (about 10" by 10" each). You'll need 8 red squares and 8 blue ones (any color will do, but you need only two colors.). On each of the red squares using a black marker, write the numbers as follows, -8, -7, -6, -5, -4, -3, -2, -1. On each of the blue squares, write 1, 2, 3, 4, 5, 6, 7, 8. On a large white square write the numeral 0. Lay out your hopscotch game squares in a pattern like this:



Talk about manipulatives! You'll have to manipulate your entire body around this game board. Here are the rules. You'll need to exercise your mental math skills. Each time you land on a square, you place your own marker on the square (you can use small paper squares you make in your own color). The first person to have a marker on all squares wins the game.

One player stands on zero. The other player sets the spinner on zero by placing the needle just between the -1 and the 1. Spin the needle on the spinner and wait until it has stopped. The player then hops the number of places the spinner says. If the spinner says 2 the player hops until he lands on the 2. On the next spin, let's say the needle stops on the -3. Now the player has to hop four spaces in the negative direction until he lands on ? Look at the board above. Where would he be now? On the negative 1.

Take turns using the spinner with your opponent until one of you has a marker on each of the squares. That person's the winner, and, you'll understand the number line, positive and negative numbers too.

In fact, instead of a hopscotch game, you could use the number line. If you haven't already taped out a big number line on your classroom floor, now's the time to do it.

Here's a little quiz on expanded notation and understanding numbers in our decimal system. From the questions, can you tell what "expanded notation" means? What does expand mean?

#### QUESTION

#### ANSWER

1.  $7000 + 400 + 20 + 1$  names what numeral?
2.  $400 + 30 + 2$  names what number?
3.  $9000 + 80 + 2$  names what number?
4. Give expanded notation for 470
5. Give expanded notation for 2275
6. Give expanded notation for 4052
7. Give expanded notation for 673
8. What is the digit in the ones place? 8976
9. What is the digit in the thousands place? 2983
10. Give the value of the 3 in 349

The last part of this standard asks you to be able to translate every day experiences into number sentences. This is the beginning of learning algebra. Algebra is a way of expressing number ideas to help you solve problems.

We'll teach a few algebra terms to help you create number sentences from word problems. In every word problem there is something called a variable. This is the number you are trying to find or solve the problem for. It's the question mark in the problem. In algebra, people use letters of the

alphabet to indicate the variable in a problem. You can make number sentences yourself by using a variable.

If Sophia has 12 apples in her grocery sack and she drops 3 on the way home from the store, how many (here's the question mark part) will she have left?

We can make a number sentence out of this problem to help us solve it. Most word problems also have clue words that actually tell what to do. In this problem, the words "have left" are the clue words. What operation ( + -  $\times$   $\div$  ) are they asking you to perform in this story problem? They're asking you to subtract - she dropped or lost the apples so you're taking away from the total.

In our number sentence, we'll use the letter "a" to stand for apples.

Here's the problem as we understand it:

- 12 (number of apples Sophia started out with)
- minus (-) 3 (number she dropped)
- equals (=) how many apples (a)?

In short:

$$12 - 3 = a$$

You've just created an equation, or a number sentence. This is algebra and it's a wonderful way to learn to solve problems, especially the kind you find on the MCAS tests. When you learn more about the Number Sense and Numeration standard you may be quizzed to see how well you did with these ideas.

Algebra uses the same arithmetical operations as ordinary math. For instance,

- $a + a = 2a$
- $5b - 4b = 1b$  or  $b$  (1 times any number is that number).

- $a \times a = a^2$  - the 2 is an exponent, it tells us you have multiplied the number by itself

Here are some clue words you should know. What do these words tell you to do in a story problem?

sum, product, difference, quotient, half, twice,  
square, three times, less than, greater than, more,  
increase, minus

Steps to solving word or story problems:

- Understand the problem. Read the problem carefully as many times as it takes to understand what you need to find.
- What is the problem asking you to find?
- Identify the facts, what do you know for sure?
- Ignore unnecessary information, cross out distractions.
- Draw a picture - Try to see the problem in your mind.
- Devise a plan for solving the problem, write a list of steps to take.
- Don't give up.
- When you think you are through go back and make sure you have answered the question.

Some problems for you to solve:

1. Which does NOT equal 452?
  - A. 3 hundreds, 5 tens, 12 ones
  - B. 3 hundreds, 15 tens, 2 ones
  - C. 4 hundreds, 5 tens, 2 ones
  - D. 4 hundreds, 4 tens, 12 ones

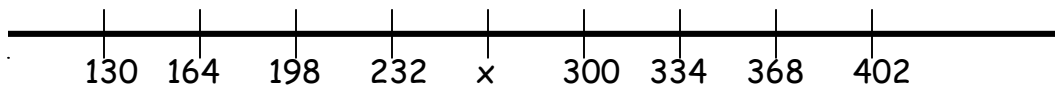
Remember the game out on the playground when we moved people around inside the place value columns? Try this out on your desktop. Place the colored disks you have into the columns on your desk. Which is the only answer that makes sense?

2. Which number below fits ALL of these clues?

Try the process of elimination:

- A multiple of 3
- An even number
- A multiple of 8
- Not a multiple of 9

- A. 48
- B. 54
- C. 63
- D. 72



3. What number should replace the x on this number line?

- A. 296
- B. 286
- C. 266
- D. 246

Hint: What is the numerical difference between each number on the line?

4. I am a number. When you switch my ten thousand digit with my hundred digit, I become 804,963. What number am I?

- A. 849,063
- B. 894,063
- C. 809,463
- D. 840,963

Identify the digits they are referring to. Draw a little line under each, then switch them. What's your new number?

5. Nadine was playing a "Guess My Number" game with her mother. The first clue she told her mother was, "I am thinking of a three-digit whole number that has the digits 1, 5, and 8."

- A. List all of the numbers that Nadine could be thinking of.  
Nadine's next clue was this: "My number is also a multiple of 5."
- B. List all of the numbers that Nadine could be thinking of now.  
Finally Nadine told her mother the last clue: "When my number is rounded to the nearest hundred, it is 200."

- C. What is Nadine's number?
- D. Write three clues for another number game and number your clues. The game must have **ONLY ONE CORRECT ANSWER**. Write the answer.

This problem is called an Open Response question. You are first asked to solve a step by step problem that is presented on the test, then you are asked to create a problem of your own. First solve the problem:

A list of the possible numbers, 158, 185, 581, 518, 815, 851

The number must be a multiple of 5. So, it needs to end in the 5 since a multiple of 5 can't end in a 1 or an 8. So, we've narrowed it to:

185 or 815

The next clue was "When the number is rounded to the next hundred it is 200. There is only one number that could be. 185

Now it IS up to you to write your own "Guess My Number" Question.

Post-test Strand One: Choose the correct number sentence.

- 1) If a truck filled with 12,642 potatoes bounces down a bumpy road and 10,321 potatoes bounce out, how many potatoes are left?
  - a)  $12,642 + 10,321 = P$
  - b)  $10,321 - P = 12,642$
  - c)  $P = 12,642 - 10,321$
  - d)  $12,642 + P = 10,321$
  
- 2) What number equals the total number of apples in a shipment with 3 cartons of apples each containing 350, 237 and 412 apples?
  - a)  $350 + 237 - 417 = A$
  - b)  $237 = A - 412 + 350$
  - c)  $350 + 237 + 412 = A$
  - d)  $417 - 350 = A + 237$
  
- 3) 57 people were enrolled in a rock climbing course. 31 made it to the top. How many climbers were left at the bottom?
  - a)  $57 + 31 = C$
  - b)  $57 - 31 = C$
  - c)  $31 - 57 = C$
  - d)  $C + 57 = 31$
  
- 4) There are 26 teaspoons of sugar in a bowl. You are adding 21 teaspoons to follow the recipe. How many teaspoons of sugar did the recipe require altogether?
  - a)  $T + 21 = 26$
  - b)  $26 + 21 = T$
  - c)  $T = 21 - 26$
  - d)  $26 - 21 = T$
  
- 5) 97 jelly beans remained in the jar after the party. If 1,321 were eaten, what was the total number of jelly beans at the start of the party?
  - a)  $97 - J = 1,321$
  - b)  $1,321 - 97 = J$
  - c)  $97 - 1,321 = J$
  - d)  $1,321 + 97 = J$

- 6) 10,000 football fans bought hot dogs at the game. The remainder of the fans ate hamburgers. How many ate hamburgers if attendance at the game was 21,547?
- a)  $21,547 - 10,000 = F$
  - b)  $10,000 - 21,547 = F$
  - c)  $21,547 + 10,000 = F$
  - d)  $F - 10,000 = 21,547$
- 7) I am a number. When you switch my 10,000 digit with my hundred digit, I am 785,901. what am I?
- a) 795,801
  - b) 705,981
  - c) 789,501
  - d) 783,910
- 8) Using expanded notation rules, what is this number? Three hundreds, 7 tens, 4 ones.
- a) 734
  - b) 37.4
  - c) 374
  - d) 3,741
- 9) If you play the colored disks on the desktop game, what will this number look like? 645 (You use blue disks for hundreds, red for the tens and white for ones.)
- a) 6 red, 4 blue, 5 white
  - b) four red disks, six white, five blue
  - c) six white disks, four red, 5 blue
  - d) 6 blue, 4 red, 5 white
- 10) Which does not equal 842? (use the disks on your desktop.)
- a) 7 hundreds, 14 tens, 2 ones
  - b) 8 hundreds, 4 tens, 2 ones
  - c) 8 hundreds, 3 tens, 12 ones
  - d) 8 hundreds, 14 tens, 12 ones

Name:

Number Sense and Operations (part two) - pretest.

Use  $>$ ,  $<$  or  $=$  to make true statements.

1.  $556 \underline{\hspace{1cm}} 510$

2.  $240 \underline{\hspace{1cm}} 219$

3.  $832 \underline{\hspace{1cm}} 383$

4.  $949 \underline{\hspace{1cm}} 488$

5.  $130 \underline{\hspace{1cm}} 933$

6.  $109 \underline{\hspace{1cm}} 225$

7.  $879 \underline{\hspace{1cm}} 146$

8.  $676 \underline{\hspace{1cm}} 369$

9.  $906 \underline{\hspace{1cm}} 545$

10.  $351 \underline{\hspace{1cm}} 721$

11.  $905 \underline{\hspace{1cm}} 264$

12.  $282 \underline{\hspace{1cm}} 109$

13.  $822 \underline{\hspace{1cm}} 837$

14.  $720 \underline{\hspace{1cm}} 588$

15.  $664 \underline{\hspace{1cm}} 990$

16.  $104 \underline{\hspace{1cm}} 456$

17.  $838 \underline{\hspace{1cm}} 282$

18.  $905 \underline{\hspace{1cm}} 242$

19.  $894 \underline{\hspace{1cm}} 470$

20.  $242 \underline{\hspace{1cm}} 445$

21.  $145 \underline{\hspace{1cm}} 837$

22.  $306 \underline{\hspace{1cm}} 312$

23.  $880 \underline{\hspace{1cm}} 192$

24.  $969 \underline{\hspace{1cm}} 821$

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