

COMPACTED MATHEMATICS

CHAPTER 1

NUMBER OPERATIONS

TOPICS COVERED:

- Trip Across The USA Group Project
- Place value of whole numbers
- Place value of decimals
- Adding and subtracting whole numbers
- Multiplying and dividing whole numbers
- Adding and subtracting decimals
- Multiplying and dividing decimals
- Rounding

Mathematics is the science of magnitude and number and related topics. It is derived from the Greek “mathema” which means learning.

Arithmetic is the science of numbers and reasoning. It is derived from the Greek “arithmetike tekhnē” which means art of counting.

1.	My favorite subject(s)	
2.	My hobbies	
3.	My favorite sports	
4.	The one song I will always remember from this summer is...	
5.	What I like about my friends	
6.	What I like about myself	
7.	Careers that might interest me	
8.	When I have free time I enjoy...	
9.	Books and magazines I enjoy	
10.	The three people I admire the most are...	
11.	If I were an animal I would be a...	
12.	My greatest talent is...	
13.	Where I'd like to live	
14.	My favorite cartoon character is...	
15.	A responsibility I handle well is...	
16.	If I were principal of this school the one thing I would change is...	
17.	Subjects I want to learn about	
18.	Things I want to improve	
19.	Major food preferences and favorite restaurant	
20.	My most valuable possessions	
21.	My most memorable events	
22.	Places I have traveled	
23.	What really gets on your nerves?	
24.	One of my earliest memories is...	
25.	The happiest day of my life was...	
26.	I was sad when I learned that...	
27.	The best opportunity I ever had was...	

28.	It was difficult to learn to...	
29.	If you were allowed to stop going to school, would you?	
30.	An experience that embarrassed me was...	
31.	In five minutes you will be stranded on a desert island. You may only take one realistic item with you. That one item will be...	
32.	Think of your all-time favorite teacher. Why did you pick this teacher?	
33.	My favorite movie of all-time is....	
34.	If you could be as talented as a friend of yours at one thing, what would you choose?	
35.	The wildest and craziest thing I have ever done is...	
36.	If you were given \$1,000 to help other people how would you spend it?	
37.	The one activity I remember most from 5 th grade math is...	
38.	My fifth grade teachers would describe me as...	
39.	My parents would describe me as....	
40.	My best friend would describe me as...	
41.	If you had to pick an age to be for your entire life and never grow older, what age would you pick?	
42.	If I had to pick one new nickname for everyone to call me, it would be...	
43.	What are you most proud of having accomplished in the past year?	
44.	What is the hardest thing about growing up?	
45.	What was the luckiest thing that ever happened to you?	
46.	If you had to eat only one food for the entire next week, what would it be?	
47.	You get to invite five famous people, dead or alive, to come eat dinner with you. Who do you choose?	
48.	If you could grow up to be famous and successful, what would you like to be known for?	
49.	If you could appear on any TV show (past or present), what show would you pick?	

Activity 1-2

Newspaper Scavenger Hunt

NAME:

On your poster board you must include the following:

1. The **item number** and the **description of the item** included on this page plus the newspaper cutout.
2. Box each item so that it is separate and easy to identify.
3. In the "Found" column, check the items you have included.
4. Your grade is the total points for all correctly identified items on your construction paper.
5. The maximum number of points you may earn is 110.
6. You may only include ONE of each item and one cut-out may not count for more than one item.
7. Turn this page into the tray after you have completed your work.

<i>Place all on same side of construction paper</i>			<i>Place all on the other side of construction paper</i>		
	7 points	FOUND		4 points	FOUND
1	A circle graph		21	A pentagon	
2	An item with 2 different prices		22	A baseball batting average	
3	A metric unit of weight		23	A baseball team's winning average (decimal)	
4	A metric unit of length		24	Sale date (beginning and ending)	
5	A percentage using a fraction		25	A bar graph	
6	An octagon		26	A date in numbers	
7	A top 5 or 10 list		27	A restaurant ad with prices	
8	A ratio		28	A number between 100 and 1000	
9	A mixed number		29	A number greater than 10,000	
10	A number written in words		30	A temperature in degrees	
11	A metric unit of volume		31	Time	
12	A hexagon		32	A stock price with the company name or symbol	
13	A temperature in Celsius		33	A coupon	
14	An address and phone number		34	A percent using a whole number	
15	A line graph		35	A decimal NOT as money	
16	A real estate ad with prices		36	A fraction	
17	A percent using a decimal		37	A triangle	
18	A negative number		38	A circle	
19	A decimal as money		39	A rectangle	
20	A blueprint or floor plans of a building		40	Picture of jewelry stating the total weight in carats	

1. Explain your main role for this project.
2. List three EDUCATIONAL, MATH RELATED things you learned from this project.
3. Your team is assigned 100 points. Divide up these points based on the amount of work each person did, in your opinion.
4. Tell me any additional information you need to (you stayed late several times, someone constantly goofed off, etc.)

Activity 1-4	Place Value: Find your partner!	NAME:
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8,008,800	eight million, eight thousand, eight hundred	80 million, 800 thousand, 800	80,800,800
eighty million, eighty thousand, eight hundred	80,080,800	8,000,000 + 80,000 + 800	eight million, 80 thousand, 800
80 million, 80 thousand, 800	80,000,000 + 80,000 + 800	8 million, 8 thousand, 80	8,000,000 + 8,000 + 80
eighty million, eight thousand, eight hundred	80,008,800	eighty million, eight hundred thousand, eighty	80,000,000 + 800,000 + 80
8,000,000 + 800,000 + 800	8 million, 800 thousand, 800	8,080,080	eight million, eighty thousand, eighty
8,800,080	eight million, eight hundred thousand, eighty	80,000,000 + 8,000 + 80	80 million, 8 thousand, 80
800,008,080	eight hundred million, eight thousand, eighty	800,080,800	eight hundred million, eighty thousand, eight hundred

Materials: Numbers 0-9 cut out separately, a dot on the desk to use as a decimal.

WHOLE NUMBERS

How many digits do you have?

Create an even number using all 10 digits. Ask the place value of the first and last digit. Put your finger on the ten thousands digits. Make sure it is odd.

Where is the units place? What is a unit? What is another name for the units place?

Put your finger on the hundreds place. It must be a factor (or multiple) of 3 (or any number). [Review other whole number place values].

WHOLE NUMBER PLACE VALUE CHALLENGES (one person)

1. Create the
 - a. largest
 - b. 4-digit number
 - c. without consecutive digits next to each other
2. Create the
 - a. smallest
 - b. 4-digit number
 - c. without consecutive digits next to each other
3. Create the
 - a. largest
 - b. 8-digit
 - c. odd number
 - d. first three digits are not in descending order
 - e. product of the digits is 0
 - f. one-fourth of the digits are between 1 and 4
4. Create the
 - a. largest
 - b. 10-digit number
 - c. odd number
 - d. multiple of 5
5. Create the
 - a. smallest
 - b. 10-digit number
 - c. without consecutive digits next to each other

WHOLE NUMBER PLACE VALUE CHALLENGES (combine with a partner)

1. Create the
 - a. largest
 - b. 4-digit number
 - c. without the digit 8
 - d. which would round to 8000 if rounded to the nearest thousand
2. Create the
 - a. smallest
 - b. 4-digit number
 - c. even number
 - d. which would round to 1000 if rounded to the nearest thousand

3. Create the
 - a. smallest
 - b. odd
 - c. 9-digit number
 - d. not a multiple of 5
 - e. only one-third of the digits are factors of 6
 - f. contains the largest even digit
4. Create the smallest 5-digit even number
5. Create the largest 6-digit odd number
6. Create the smallest 6-digit multiple of 10
7. Create the largest 7-digit multiple of 5
8. Create the closest number to half a million
9. Create the smallest 9-digit number with more than 50% of its digits odd

DECIMALS

Now use the dot on your desk as a decimal point.

Make a 10 digit number with 5 digits to the right of the decimal point and 5 digits to the left of the decimal point. Place your finger on the tenths and make sure it is a factor of 2. Who at your table has the largest number? Take away the 5 digits to the left of the decimal. Who at your table has the largest decimal? (Go over the symbols $<$, $>$, $=$) [Review other decimal place values].

DECIMAL PLACE VALUE CHALLENGES (one person)

1. Create the
 - a. smallest decimal using any number of digits you choose
2. Create the
 - a. smallest decimal
 - b. using only the five odd digits
 - c. the hundredths place must contain a 9
3. Create the
 - a. closest number to 400 that you can using all ten digits
4. Create the
 - a. largest
 - b. 6 digit decimal
 - c. without consecutive digits next to each other
5. Create the
 - a. closest decimal to 0.8
 - b. using the numbers 6-9
 - c. with 7 in the ten-thousandths place

Activity	Place Value	NAME:
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The following chart demonstrates place value from the billions place down to the hundred-thousandths place.

Whole Number Place Value												
5	,	8	4	6	,	3	1	9	,	2	0	8
Billions	Hundred Millions	Ten Millions	Millions	Hundred Thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones			

Decimal Place Value						
1	●	5	3	7	2	8
Ones	Tenths	Hundredths	Thousandths	Ten-thousandths	Hundred-thousandths	

How to read a number with a decimal in it:

Read the entire whole number part (without saying “and”). After the ones place, say “and.” Then, read the number after the decimal as if it were a whole number. The last words are the place value of the final digit.

Example: 82.0075

“Eighty-two AND seventy five ten-thousandths”

Having completed your trek across America, your family is already planning next summer’s vacation. They are thinking that a trip to outer space sounds exciting. Use the information provided to complete this activity sheet.

	Vacation spot	Distance from Earth (miles)	Distance from Earth in words (miles)
1.	Sun		Ninety-four million, four hundred eight thousand, twenty
2.	Mercury	158,241,250	
3.	Venus		One hundred sixteen million, seventy thousand, six hundred ninety-six
4.	Moon	238,857	
5.	Mars		Two hundred thirty-five million, seven hundred sixty-two thousand, four hundred forty
6.	Jupiter		Five hundred sixty-five million, seven hundred thirty thousand, one hundred sixty
7.	Saturn		Nine hundred thirty-five million, seven hundred seventy-six thousand, three hundred twenty-three
8.	Uranus	1,826,710,650	
9.	Neptune		Two billion, seven hundred forty million, two hundred fifty-three thousand, seven hundred forty-two

Determine which object is further away. Below each object write its distance from Earth. Then fill in the square with <, >, or = to make each sentence true.

- | | |
|---|--|
| 10. Moon <input style="width: 40px; height: 20px; border: 1px solid black;" type="text"/> Sun
_____ | 11. Mars <input style="width: 40px; height: 20px; border: 1px solid black;" type="text"/> Venus
_____ |
| 12. Neptune <input style="width: 40px; height: 20px; border: 1px solid black;" type="text"/> Pluto
_____ | 13. Saturn <input style="width: 40px; height: 20px; border: 1px solid black;" type="text"/> Jupiter
_____ |

14.	Which planet is closest to Earth?	
15.	Which planet is farthest from Earth?	
16.	Which planets are more than one billion miles away from Earth?	
17.	Which planet is about half a billion miles from Earth?	

You and your sister decide to spend some of your free time during the summer to analyze the data from your fun trip across America. Focusing your effort on decimals, assist them in completing the activities below.

	Start at...	Finish at...	Gas used (Gallons)	Key number
1.	Charleston, West Virginia	Frankfort, Kentucky	9.851	5
2.	Frankfort, Kentucky	Nashville, Tennessee	10.4	1
3.	Nashville, Tennessee	Raleigh, North Carolina	27.15	7
4.	Raleigh, North Carolina	Columbia, South Carolina	11.328	8
5.	Columbia, South Carolina	Atlanta, Georgia	10.7	7
6.	Atlanta, Georgia	Tallahassee, Florida	13.59	3
7.	Tallahassee, Florida	Montgomery, Alabama	10.3605	5
8.	Montgomery, Alabama	Jackson, Mississippi	12.25	5
9.	Jackson, Mississippi	Baton Rouge, Louisiana	8.006	6
10.	Baton Rouge, Louisiana	Austin, Texas	21.4	2

Find the key number in each amount of gasoline in the table. Write the place value of the digit (tenths, hundredths, millions, etc.)

- 1. _____ 2. _____ 3. _____
- 4. _____ 5. _____ 6. _____
- 7. _____ 8. _____ 9. _____
- 10. _____

	Start at...	Finish at...	Gas used (Gallons)	Gas used (Gallons) in words
11.	Austin	Santa Fe		Thirty-seven and twenty-five hundredths
12.	Santa Fe	Denver	19.015	
13.	Denver	Cheyenne		Five and five hundred forty-eight thousandths
14.	Cheyenne	Salt Lake City		Twenty-one and nine tenths
15.	Salt Lake City	Phoenix	35.47	
16.	Phoenix	Carson City	36.8503	
17.	Carson City	Sacramento	6.5	
18.	Sacramento	Salem	26.751	
19.	Salem	Olympia		Seven and two thousandths
20.	Olympia	Boise		Twenty-six and eighty-two hundredths

Activity 1-8	Whole Number Addition and Subtraction	NAME:
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After all of their research regarding travel to another planet next summer, your family has decided that space may not be their best option. However, a trip outside the US to visit other countries sounds like a perfect alternative. Your mom and dad gather data about the round trip mileage from New York to several foreign cities.

From New York to...	Round-trip mileage	From New York to...	Round-trip mileage	From New York to...	Round-trip mileage
Paris	7,234	Singapore	19,054	Mexico City	4,188
London	6,902	Toronto	708	Lima	7,298
Tokyo	13,488	Moscow	9,326	Rio De Janeiro	9,612
Cairo	11,194	Buenos Aires	10,586	Beijing	13,656
Sydney	19,886	Hong Kong	16,106		

Note that the mileages listed are round-trip. Thus, they include traveling from New York to the city and then back to New York. You decide to visit two cities during the summer – one in June and one in July. Calculate your total round-trip miles from New York.

	Two cities visited...	Total Mileage
1.	Paris and Toronto	
2.	London and Cairo	
3.	Mexico City and Toronto	
4.	Beijing and Moscow	
5.	Singapore and Rio De Janeiro	
6.	Tokyo and Lima	
7.	Hong Kong and Buenos Aires	
8.	Paris and Singapore	
9.	London and Moscow	

You realize that there is a chance that one of your cousins and his family may make the trip with them. Scared that this may happen, you look at only visiting one city. Determine the **difference** in mileage between the following pairs of cities.

	Two cities visited...	Difference in Mileage
10.	Paris and Sydney	
11.	London and Cairo	
12.	Mexico City and Toronto	
13.	Beijing and Moscow	
14.	Singapore and Rio De Janeiro	
15.	Tokyo and Lima	
16.	Hong Kong and Buenos Aires	
17.	Mexico City and Lima	
18.	Cairo and Hong Kong	
19.	Which city is closest to New York City?	
20.	Which city is about eight thousand miles from New York City?	

Activity 1-9	Whole Number Multiplication	NAME: _____
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You woke up one Sunday morning, ate breakfast, and then sat down to read the Sunday newspaper. This morning it contained an article about races that were going to take place between the following cities. Excited because your family had traveled to all these cities last summer, you gather your family together for a family meeting to discuss the possibility of entering some races.

Starting at...	Arriving at...	Total distance (miles)
Boston, Massachusetts	Providence, Rhode Island	49
Providence, Rhode Island	Hartford, Connecticut	86
Hartford, Connecticut	Trenton, New Jersey	176
Trenton, New Jersey	Dover, Delaware	111
Dover, Delaware	Annapolis, Maryland	67
Annapolis, Maryland	Richmond, Virginia	137
Richmond, Virginia	Charleston, West Virginia	314
Charleston, West Virginia	Frankfort, Kentucky	197
Frankfort, Kentucky	Nashville, Tennessee	208
Nashville, Tennessee	Raleigh, North Carolina	543
TOTAL ROUND TRIP USA DISTANCE (Austin to Austin)		14,165

Complete the table below using the information above.

	Name of the Race	Number of cars entered	Total distance driven by all cars (assuming they all finish)
1.	Dover-Annapolis Battle of the Buicks	8	
2.	Hartford-Trenton Chase of the Chevys	3	
3.	Nashville-Raleigh Pursuit of the Porshes	11	
4.	Boston-Providence Contest of the Corollas	74	
5.	Frankfort-Nashville Event of the Eclipses	30	
6.	Richmond-Charleston Fight of the Ferraris	6	
7.	Providence-Hartford Clash of the Camrys	5	
8.	Trenton-Dover Brawl of the Beetles	20	
9.	Austin-Austin War of the Winnebagos	12	
10.	Annapolis-Richmond Drive of the Durangos	25	
11.	Charleston-Frankfort Match of the Mustangs	10	
12.	Dover-Annapolis Race of the Rams	16	
13.	Hartford-Trenton Battle of the Buses	7	
14.	Austin-Austin Lap of the Limousines	55	
15.	In the total round trip (Austin-Austin) the number <u>4</u> represents what place value?		
16.	The shortest race is between which two cities?		
17.	A race from Annapolis to Charleston via Richmond is exactly how many miles?		
18.	Rounded to the nearest ten, how far is it from Hartford to Trenton?		
19.	Rounded to the nearest thousand, how far is the Austin-Austin round trip?		

You and your sister were concerned that your parents car did not get very good gas mileage during the trip this summer as it only averaged 20 miles per gallon (the average was different on some segments depending on the terrain and who was driving). In an effort to convince mom and dad to buy a car with higher gas mileage (and with a DVD player and headphones for the back seat so they do not have to listen to their singing the whole trip), you both decide to do an analysis of the amount of gas that could be saved. Complete the tables below to provide mom and dad with the necessary data.

THIS SUMMER					
	Starting at...	Arriving at...	Total distance (miles)	Average miles per gallon	Gallons of gas used*
1.	Austin, Texas	Santa Fe, New Mexico	745	22	
2.	Cheyenne, Wyoming	Salt Lake City, Utah	439	8	
3.	Salt Lake City, Utah	Phoenix, Arizona	708	34	
4.	Carson City, Nevada	Helena, Montana	1911	9	
5.	Denver, Colorado	Bismarck, North Dakota	4551	23	
6.	Phoenix, Arizona	Pierre, South Dakota	3513	10	
7.	Sacramento, California	Boise, Idaho	1230	5	
8.	Austin, Texas	Austin, Texas	14,165	20	

* Write your answer as a whole number and a remainder (ex. 10 r6) or as a decimal and round to the tenth place.

PROPOSAL WITH NEW CAR AND BETTER GAS MILEAGE					
	Starting at...	Arriving at...	Total distance (miles)	Average miles per gallon	Gallons of gas used*
9.	Austin, Texas	Santa Fe, New Mexico	745	32	
10.	Cheyenne, Wyoming	Salt Lake City, Utah	439	18	
11.	Salt Lake City, Utah	Phoenix, Arizona	708	42	
12.	Carson City, Nevada	Helena, Montana	1911	20	
13.	Denver, Colorado	Bismarck, North Dakota	4551	30	
14.	Phoenix, Arizona	Pierre, South Dakota	3513	26	
15.	Sacramento, California	Boise, Idaho	1230	15	
16.	Austin, Texas	Austin, Texas	14,165	35	

For the concluding exercise, use only the **whole numbers** from your answers above (forget about the remainder!)

17.	How many gallons could have been saved on the Austin-Santa Fe route?	
18.	How many gallons could have been saved on the Carson City-Helena route?	
19.	How many gallons could have been saved on the entire Austin-Austin route?	
20.	Rounded to the nearest hundred, how far is it from Denver to Bismarck?	
21.	Is the Austin-Santa Fe trip or the Salt Lake City-Phoenix trip longer in distance?	

Activity 1-11	Decimal Addition	NAME:
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Your dad sat down to analyze the results of the recent road trip the family had made across America. Having arrived at Walt Disney World too late to get on the rides, he needed to figure out how to make better time for future travels. Dad concluded that the family had to make too many restroom stops along the way and that kept slowing them down. Help your dad determine the sum of the drinks that the family had during various parts of the trip.

Starting at...	Arriving at...	Liters of Coke consumed by You	Liters of Coke consumed by Sister	Liters of Coke consumed by Mom
Pierre, South Dakota	Lincoln, Nebraska	1.5	2.135	3.82
Lincoln, Nebraska	Topeka, Kansas	1.66	1.9	1
Topeka, Kansas	Oklahoma City, Oklahoma	2.921	1.47	2.4
Oklahoma City, Oklahoma	Little Rock, Arkansas	0.384	2	1.688
Little Rock, Arkansas	Jefferson City, Missouri	3.4	1.82	2.333
Jefferson City, Missouri	Des Moines, Iowa	1	2.787	1.5
Des Moines, Iowa	St. Paul, Minnesota	2.45	2.18	2.21
St. Paul, Minnesota	Madison, Wisconsin	2.6	1.368	3
Madison, Wisconsin	Springfield, Illinois	1.632	2	0.3
Springfield, Illinois	Indianapolis, Indiana	2.09	1.077	1.44

	Route	Griswold family members	Total amount of Coke consumed (liters)
1.	Lincoln-Topeka	Sister, Mom	
2.	Pierre-Lincoln	You, Sister	
3.	Oklahoma City-Little Rock	You, Mom	
4.	Topeka-Oklahoma City	Sister, Mom	
5.	Little Rock-Jefferson City	You, Sister	
6.	Des Moines-St. Paul	You, Sister, Mom	
7.	Jefferson City-Des Moines	Sister, Mom	
8.	Madison-Springfield	You, Sister, Mom	
9.	St. Paul-Madison	You, Sister	
10.	Springfield-Indianapolis	You, Mom	
11.	Lincoln-Topeka	You, Sister	
12.	Pierre-Lincoln	Sister, Mom	
13.	Oklahoma City-Little Rock	Sister, Mom	
14.	Topeka-Oklahoma City	You, Sister, Mom	
15.	Who drank the most amount of Coke between Lincoln and Topeka?		
16.	Who drank the least amount of Coke between Des Moines and St. Paul?		
17.	Place the three family members in order from greatest to least based on the amount they drank on the Springfield to Indianapolis route.		

Mom and Dad love to eat Little Debbies after every meal. Their favorites are the Swiss Cake Rolls and the Brownies. You and your sister also enjoy Little Debbies, however your favorites are the Nutty Bars and the Donut Sticks. With so much time in the car to eat and not much exercise on the big trip, each family member gained a little weight before the return to Austin. Use the following table to determine the differences in weight.

When the family arrived at....	Dad's weight (lbs.)	Your weight (lbs.)	Sister's weight (lbs.)	Mom's weight (lbs.)
Indianapolis, Indiana	208.3	142	98.27	118
Lansing, Michigan	209.15	143.63	99.458	119.1
Columbus, Ohio	210.37	144.7	100	119.789
Harrisburg, Pennsylvania	213	145.123	100.7	120.42
Albany, New York	214.6	146	101.562	120.4
Montpelier, Vermont	216.813	147.88	102	121
Augusta, Maine	218	148.5	103.11	121.213
Concord, New Hampshire	218.99	149	103.8	122.5
Boston, Massachusetts	219.463	150.23	104.63	122.77

	At this city...	What is the difference in weight between...	Weight Difference (lbs.)
1.	Indianapolis, Indiana	Dad, Mom	
2.	Lansing, Michigan	Dad, You	
3.	Columbus, Ohio	You, Mom	
4.	Harrisburg, Pennsylvania	Mom, Sister	
5.	Albany, New York	You, Sister	
6.	Montpelier, Vermont	Dad, Mom	
7.	Augusta, Maine	You, Mom	
8.	Concord, New Hampshire	Dad, Sister	
9.	Boston, Massachusetts	Sister, Mom	
10.	Columbus, Ohio	Dad, Sister	
11.	Harrisburg, Pennsylvania	Dad, You	
12.	Albany, New York	Dad, Mom	
13.	Montpelier, Vermont	You, Sister	
14.	Augusta, Maine	Dad, Sister	
15.	On the trip from Concord to Boston which Griswold gained the most weight?		
16.	On the trip from Indianapolis to Lansing which Griswold gained the least weight?		
17.	List the Griswolds in order of weight from greatest to least.		
18.	Your dad's goal when he leaves Boston is to get back to his weight in Indianapolis. How many pounds does he need to lose?		
19.	Your sister's goal when she leaves Boston is to get back to her weight in Indianapolis. How many pounds does she need to lose?		

One day Dad and Mom were going for a ride in Dad’s new car. Dad was trying to pull out of the driveway when he accidentally put the car in drive instead of reverse. The car went straight into the tree in the backyard. As the tree fell over, Dad watched in shock not only as his new car was totaled, but that oil seemed to be spurting up from the ground! Immediately Dad thought finding new oil might lower gas prices throughout the entire nation. Based on your Dad’s dream that gas prices could drop by a dollar a gallon, below is revised trip information.

Start at...	Finish at...	Gas used (gallons)	Cost of Gas (\$ per gallon)
Carson City, Nevada	Sacramento, California	6	\$2.35
Sacramento, California	Salem, Oregon	27	\$2.20
Salem, Oregon	Olympia, Washington	8	\$2.24
Olympia, Washington	Boise, Idaho	26	\$2.50
Boise, Idaho	Helena, Montana	28	\$2.45
Helena, Montana	Bismarck, North Dakota	33	\$2.25
Bismarck, North Dakota	Pierre, South Dakota	11	\$2.30
Concord, New Hampshire	Boston, Massachusetts	3.4	\$2.40
Boston, Massachusetts	Providence, Rhode Island	2.5	\$2.37
Providence, Rhode Island	Hartford, Connecticut	4.3	\$2.28

Complete the table below based on the information above.

	Start at...	Finish at...	Total cost of gasoline
1.	Carson City, Nevada	Sacramento, California	
2.	Sacramento, California	Salem, Oregon	
3.	Salem, Oregon	Olympia, Washington	
4.	Olympia, Washington	Boise, Idaho	
5.	Boise, Idaho	Helena, Montana	
6.	Helena, Montana	Bismarck, North Dakota	
7.	Bismarck, North Dakota	Pierre, South Dakota	
8.	Concord, New Hampshire	Boston, Massachusetts	
9.	Boston, Massachusetts	Providence, Rhode Island	
10.	Providence, Rhode Island	Hartford, Connecticut	
11.	Which segment of the trip had the most expensive gasoline per gallon?		
12.	Which segment of the trip had the least expensive gasoline per gallon?		
13.	If six cars drove from Boise to Helena (for a total of 168 gallons of gas) how much did they spend total on gas?		
14.	If 70 cars drove from Boston to Providence, how much gasoline would be used?		
15.	For each trip segment list how much 100 gallons of gas would cost.		

You were beginning to get bored now that you were back at home after the best vacation ever. You happen to discover a sales receipt from a 7-11 that the family stopped at in Tallahassee, Florida. Although the prices of the food and drinks are all over the place you wonder what the price is per serving. That way you could tell how expensive things are on a relative basis. Although you do not have the boxes to say exactly how many servings there were per container you make your best guess. Determine each price per serving.

	Food/Drink Item	Store Price	Estimated Servings	Cost per serving
1.	Swiss Cake Rolls	\$1.20	6	
2.	Ranch Doritos	\$3.00	12	
3.	Honey Nut Cheerios	\$3.80	10	
4.	Milky Way Candy Bar	\$0.90	2	
5.	12 pack of A&W Root Beer	\$2.46	12	
6.	Ruffles Barbeque Potato Chips	\$1.80	8	
7.	Big Red Bubble Gum	\$0.50	10	
8.	Super Big Gulp	\$0.99	6	
9.	Tic Tac's	\$0.48	40	
10.	Coca-Cola Slurpee	\$0.79	2	
11.	Large bag of peanuts	\$5.04	14	
12.	Skittles	\$0.65	2	

13.	Place the 12 items above in order from least to greatest based on their STORE PRICE.
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14.	Place the 12 items above in order from least to greatest based on their COST PER SERVING.
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15.	If you were buying snacks for the car, which food item would you say is the best value? Why?
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16.	Is the Super Big Gulp, Slurpee, or 12 pack of Root Beer a better deal? Why?
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Activity 1-15	Word Problems with Decimals	NAME:
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1.	Jeff had \$120.73 in his bank account. He wrote a check for \$78.32 for two new tires. How much money is left in his account?	
2.	Subtract ninety-two and seven tenths from two hundred forty-eight and forty-six thousandths.	
3.	If the US produced 1.824 million bushels of soybeans one year and 1.966 million bushels the following year. How much more did the US produce in the second year?	
4.	Write the numbers six hundred eighty-three and twenty-three hundredths, fifty-nine and one hundred eleven thousandths, two hundred fourteen and seven tenths, and six thousand two. Find the sum.	
5.	Write the following sums of money in the form of decimals and find the sum. \$2 and 3 cents, \$26 and 8 dimes, 26 cents, \$15, and 7 cents.	
6.	The largest cockroach ordered from Roasted Cockroaches was 5.1 cm. long. The shortest is 3.99 cm. long. What is their total length?	
7.	If buy a triple-decker burger, Roasted Roaches and a Cricket Cola separately it cost \$4.27. The Super Sac Meal Deal with these same items is only \$3.99. How much do you save by buying the Meal Deal?	
8.	When you fill your gas tank, the odometer read 2529.7. The next time you filled the tank, the odometer read 2760.1. How many miles did you travel?	
9.	The cost of 12 gallons of gas is \$14.28. How much would you pay per gallon?	
10.	Your car travels an average of 19.7 miles per gallon in the city and 23.8 miles per gallon on the highway. On an 11-gallon tank of gas how much farther can you travel on the highway than in the city?	
11.	A big company used 2.86 million sheets of paper for correspondence last year and 3.1 million this year. By how many million sheets of paper did their correspondence grow in one year?	
12.	A seed company sold 7.126 million packets of seeds last year and 8.4 million packets this year. How many more packets did they sell this year?	
13.	Subtract eighty and five tenths from one hundred thirty and fifty-two thousandths.	
14.	Find the sum of three thousand forty-two and seven tenths, three hundred forty-two and seventeen hundredths, thirty-four and two hundred seventeen thousandths, and three and four thousand two hundred seventeen ten-thousandths.	
15.	Brian worked four days last week doing odd jobs. He earned \$4.50, \$5.75, \$6.50, and \$6.10. How much did Brian earn last week?	
16.	Your dad spends \$14.39 at McMealworms and your sister spends another \$4.99. What is their total cost?	
17.	You find once cockroach that weighs .321 grams and another that weighs .4 grams. What is the difference in their weights?	
18.	Your car gets about 19.8 miles to the gallon. If you buy 12 gallons of gas, how many miles can you expect to drive?	
19.	You took a car trip that was exactly 496.8 miles. The trip took 9 hours. What was your average speed per hour?	

Number	Rounded to the nearest...				
	Ten	One/Unit	Tenth	Hundredth	Thousandth
6.43				 	
17.19				 	
43.751					
0.5059	 				
6.6666					
37.3274					
354.9009					
\$7.752					
30.07777					
\$99.909					
\$99.099					
592.5			 	 	
192.354009					
7.98				 	
15.20072					
0.48649	 				
0.00772	 	 	 		
816.63451					
\$5.375					
789			 	 	
654			 	 	
61.75				 	
3.1736404					
28.2525252					

