N 6.1.4 Calculate given percentages of quantities and solve problems involving discounts at sales, interest earned, and tips.

Form A

1. 25% of 220
2. 65% of 300

3. 75% of 160
4. 160% of 70

5. John found a pair of jeans that cost $45.00. If he had a 10%-off coupon, how much would the jeans cost?

6. Sue bought two shirts on sale. She would have had to pay $20.00 for each shirt, but she got them for 25% off. What was the sale price of both shirts together?

7. How much interest is earned on an account if…
   Principal = $400
   Rate = 8%
   Time = 1 year

8. How much interest is earned on an account if…
   Principal = $1,250
   Rate = 5.7%
   Time = 4 years

9. How much would a 15% tip be on a bill that cost $85.00?

10. How much would a 15% tip be on a bill that cost $42.00?
1. 25% of 80
2. 65% of 600
3. 75% of 320
4. 160% of 200
5. John found a pair of jeans that cost $37.00. If he had a 10%-off coupon, how much would the jeans cost?

6. Sue bought two shirts on sale. She would have had to pay $40.00 for each shirt, but she got them for 25% off. What was the sale price of the two shirts together?

7. How much interest is earned on an account if…
   Principal = $800
   Rate = 4%
   Time = 1 year

8. How much interest is earned on an account if…
   Principal = $1,250
   Rate = 6.5%
   Time = 10 years

9. How much would a 15% tip be on a bill that cost $65.00?

10. How much would a 15% tip be on a bill that cost $150.00?
N 6.2.1a Solve problems involving the addition, subtraction, multiplication, and division of positive fractions.

Reduce to lowest terms.

1. \(\frac{5}{7}\)  
2. \(\frac{3}{10}\)  
3. \(\frac{5}{6}\)

\[-\frac{4}{7}\]  
\[+ \frac{7}{10}\]  
\[-\frac{1}{12}\]

4. \(\frac{1}{9}\)  
5. \(\frac{4}{3}\)  
6. \(\frac{2}{5}\)  
7. \(-\frac{1}{9}\)

6. \(\frac{4}{6} \times \frac{2}{6} = \frac{8}{6} = \frac{4}{3}\)  
7. \(\frac{5}{8} \times \frac{1}{8} = \frac{5}{8}\)  
8. \(\frac{6}{6} \times \frac{3}{4} = \frac{18}{24} = \frac{3}{4}\)

9. \(\frac{5}{6} \div \frac{3}{6} = \frac{5}{6}\)  
10. \(\frac{6}{7} \div \frac{3}{7} = \frac{6}{7}\)
N 6.2.1b Explain why a particular operation was used to solve a problem involving a positive fraction.

1. If there were two pizzas to start with and Kelly ate $\frac{1}{4}$ of one, what operation would you use to figure out how much is left over? Why?

________________________________________________________________________________

________________________________________________________________________________

________________________________________________________________________________

2. John ate $\frac{1}{2}$ of a pizza, Lauren ate $\frac{1}{4}$ of a pizza, and Amy ate $\frac{1}{2}$ of a pizza. If you want to know how much they ate altogether, what operation should you use and why?

________________________________________________________________________________

________________________________________________________________________________

3. If Kim had $\frac{1}{2}$ of a pizza and she gave Hank $\frac{1}{4}$ of what she had, what operation would you use to figure out how much of a whole pizza Hank received? Why?

________________________________________________________________________________

________________________________________________________________________________

________________________________________________________________________________

4. If $\frac{1}{4}$ of a bag of marbles are red, $\frac{1}{4}$ of the bag are blue, and the rest are white, what operation would you use to find out the fraction of the bag that is colored? Why?

________________________________________________________________________________

________________________________________________________________________________

________________________________________________________________________________

5. If Patty has $\frac{1}{2}$ of a candy bar and she wants to share it with her two friends, how would you figure out how much of the original candy bar each of the 3 girls got? Why?

________________________________________________________________________________

________________________________________________________________________________

________________________________________________________________________________
N 6.2.2a Explain the meaning of multiplication and division of positive fractions.

1. Write the rule for multiplying the fractions $\frac{c}{d}$ and $\frac{e}{f}$.

   ____________________________________________________________
   ____________________________________________________________

2. Write, in words, the meaning of dividing a fraction.

   ____________________________________________________________
   ____________________________________________________________

3. Write, in words, the meaning of multiplying a fraction.

   ____________________________________________________________
   ____________________________________________________________

4. Explain each step:

   $$1 \frac{3}{4} \div 2 \frac{5}{8} = \frac{7}{4} \div \frac{21}{8}$$
   $$= \frac{7}{5} \times \frac{8}{21}$$
   $$= \frac{56}{84} = \frac{2}{3}$$

5. Using this box, show what $\frac{1}{2}$ of $\frac{1}{4}$ means.
N 6.2.2b Perform the multiplication and division of positive fractions.

Reduce to lowest terms.

1. \( \frac{8}{12} \times \frac{7}{10} \)
2. \( \frac{6}{8} \div \frac{5}{7} \)

3. \( \frac{4}{5} \times \frac{10}{12} \)
4. \( \frac{2}{5} \times \frac{7}{9} \)

5. \( \frac{1}{20} \times \frac{1}{2} \)
6. \( \frac{3}{11} \div \frac{6}{8} \)

7. \( \frac{6}{7} \div \frac{2}{4} \)
8. \( \frac{4}{9} \div \frac{10}{11} \)

9. \( \frac{2}{4} \div \frac{8}{9} \)
10. \( \frac{1}{9} \div \frac{6}{10} \)
N 6.2.3a Solve addition, subtraction, multiplication, and division problems that use positive and negative integers.

1. \(-3456 + 78 = \)  
2. \(7820 - (-567) = \)

3. \(-4892 - 6298 = \)  
4. \(263 + (-45) = \)

5. \(-34.83 - (-2.9) = \)  
6. \(143 \times (-23) = \)

7. \(-12 \times -34 = \)  
8. \(-36 \div -6 = \)

9. \(248 \div -4 = \)  
10. \(-125 \div 25 = \)
N 6.2.3b Solve problems that use positive and negative integers in combination of addition, subtraction, multiplication, and division operations.

Evaluate the following expressions.

1. \(48 \div (-6) + 3\)  
2. \(54 + (-8)(4)\)

3. \((-7)(-2) + 14\)  
4. \((-7 + (-3)) \div 3\)

5. \((20 + 10) - (-6)\)  
6. \((-6 - 4) \div (-5)\)

7. \(-84 \div (4 \times 3)\)  
8. \(12 - 4 \times 5\)

9. \((3)(45) - (-10)\)  
10. \(9 + (-67) \div 5\)
N 6.2.4 Determine the least common multiple and greatest common divisor of whole numbers and use them to solve problems with fractions.

1. Find the least common multiple of 6 and 10. _________________

2. List the first 5 multiples of 7. ________________________________

3. Find the least common multiple of 8 and 12. ____________________

4. What is the greatest common divisor of 36 and 48? ______________

5. What is the greatest common divisor of 18 and 30? ______________

6. \( \frac{5}{6} \) \( \frac{3}{7} \) \( \frac{5}{6} \)

   - 4

   \( \frac{8}{8} \)

7. \( \frac{3}{7} \) \(+\) \( \frac{7}{10} \)

8. \( \frac{5}{6} \)

   - 1

   \( \frac{12}{12} \)

9. \( \frac{1}{9} \)

   + 2

   \( \frac{5}{5} \)

10. \( \frac{4}{8} \)

    - 1

    \( \frac{9}{9} \)
A 6.2.1 Convert one unit of measurement to another.

1. 35 millimeters equals _____________ centimeters.

2. 2 miles equals ________________ feet.

3. 5 yards equals ________________ feet.

4. 3 feet equals ________________ inches.

5. Twelve feet equals _____ yards.

6. 6 meters equals ________________ centimeters.

7. 7,000 millimeters equals _____ meters.

8. 20 kilometer equals _____ meters.

9. 5000 pounds equals ________ tons.

10. If a Euro is worth $1.50, how many Euros is $6.00 worth?

___________
M 6.1.1a Understand the concept of a constant such as $\pi$.

If the diameter ($d$) of this circle is 6 inches and the circumference ($c$) is 18.84 inches, then what is $c \div d$? ______________________

If the diameter ($d$) of this circle is 9 inches and the circumference ($c$) is 28.26 inches, then what is $c \div d$? ______________________

For any circle, the circumference divided by the diameter always equals approximately ______ ______. This value is called __________ and is represented by the Greek letter ________.
M 6.1.1b Know the formulas for the circumference and area of a circle.

*Use 3.14 for \( \pi \) and round all answers to the nearest hundredth.*

1. What is the area?
   \[ \text{d} = 4 \]

2. What is the area?
   \[ \text{r} = 5 \]

3. What is the area?
   \[ \text{d} = 2 \]

4. What is the circumference?
   \[ \text{r} = 9 \]

5. What is the circumference?
   \[ \text{d} = 4.2 \]
S 6.1.1 Compute the range, mean, median, and mode of data sets.

<table>
<thead>
<tr>
<th>Data Set</th>
<th>Range</th>
<th>Mean</th>
<th>Median</th>
<th>Mode</th>
</tr>
</thead>
<tbody>
<tr>
<td>15,8,10,15,20,10</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>60,80,50,30,70,10</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>50,62,47,75</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.9,7.4,6.9,5.2,8.7,6.9</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>300,500,200,400,200,200</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
S 6.2.5 Identify claims based on statistical data and evaluate the validity of the claims.

For the following problems, identify the claim made in each passage. Then tell whether the claim is justified by the statistics. Explain your answer.

1. Based on the health club survey at the right, we can assume that Mrs. Buneul, a member of the health club, is more likely to be less than 50 years old than to be 50 years or older.

2. A serving of Oat Loopies contains 3 grams of fat. A slice of American cheese contains 7 grams of fat. Therefore, Oat Loopies are healthier for you than American cheese.

3. To measure the success of a new law requiring seat belt use, police officers asked mall visitors, “Do you wear your seat belt regularly?” 85% of the people answered “Yes,” so the seat belt law must be working.

4. There are 20 colored marbles in a bag. If I randomly pull out 4 marbles and 2 are red and 2 are blue, then the whole bag must be exactly half red and half blue.

5. I have 5 pairs of pants. They cost $150, $25, $30, $10, and $15. Since the average of those prices is $46, I can say that most of my pants cost about $50.

<table>
<thead>
<tr>
<th>Health Club Survey</th>
</tr>
</thead>
<tbody>
<tr>
<td>Characteristic</td>
</tr>
<tr>
<td>Good Swimmer</td>
</tr>
<tr>
<td>Less than 50 years old</td>
</tr>
</tbody>
</table>
S 6.3.4a Identify key terms and give examples to explain problems involving probability:

*Match the correct definition with the key term.*

1. probability
   - a. representing the conditions of a problem using models, drawings, or a computer rather than actual objects or events
2. impossible events
   - b. two events that have no outcomes in common
3. certain event
   - c. subset of a population
4. disjoint events
   - d. the ratio of the number of favorable outcomes to all possible outcomes
5. permutation
   - e. two events in which the outcomes of the second is affected by the outcome of the first
6. sample
   - f. events where the outcome of the first event does not affect the outcome of the second event
7. overlapping events
   - g. an event that cannot happen, probability of zero
8. independent events
   - h. each possible arrangement of the outcomes of an event where order is important
9. dependent events
   - i. two events that have one or more outcomes in common
10. simulation
    - j. an event that is sure to happen, probability of one

11. *Tell whether the events seem to be independent or dependent. Explain.*
    Event A: You select the name Smith from the Chicago telephone book.
    Event B: You select the name Smith from the Miami telephone book.

12. *You randomly choose a location and check today’s weather. Tell whether the events are disjoint or overlapping.*
    Event A: The sky is cloudy.
    Event B: It is raining.
Players pick a letter from the bag without looking. They record the letter and put it back into the bag. Then they pick another letter. Use the information below to find each probability.

13. What is the probability of picking the letter S twice?

14. What is the probability of forming the word IS by choosing I first and S second?

15. Do you think the probability of forming the word IS would be different if the first letter is not put back in the bag before the second letter is picked? Explain your answer.
S 6.3.4b  Predict impact of conditions required to solve probability word problems using proper terminology and procedures.

1. You have a jar of marbles in three colors. There are 20 red, 20 blue, and 20 yellow. First you predict the probability of pulling two reds in a row without replacing them. If you change the conditions and decide to replace the marbles you pull before pulling another, explain the impact on your probability of pulling two reds in a row.

2. You have two pairs of jeans and three shirts. This gives you a specific number of combinations. Explain the impact of adding another pair of pants to your wardrobe.

3. You have a combination lock with three dials containing the digits 0-9. At first you forget all three numbers and figure out that your chances of guessing correctly are 1/1000. All of the sudden, you remember the first number! How does this affect your chances of guessing correctly? Explain.
R 6.1.3 Determine how and when to break a problem into simpler parts when presented with single and multi-step problem solving.

1. Tell how much of the given fencing is left after the yard is fenced. Determine how to break the problem into simpler parts, and explain why you used a particular operation. Write your answer and show all work.

Fencing: 180 ft.

2. Name the operations, in the order you would use them, to evaluate the expression $6(x - 1) + 6$. Explain your reasoning.

Answer: 

3. You buy a pair of walking shoes. The original price of $65 is discounted by 35%. What is the sale price? Show all your work.

Answer: 

4. Which television's sale price is less expensive? Show all your work.

   Television A: Discount of 25% off the original price of $575.
   Television B: Discount of 30% off the original price of $585.

Answer: 

5. You buy a CD. The price is $15.95 and the sales tax is 8.25%. What is the total sales price? Show all your work.

Answer: 

R 6.2.5 Demonstrate a variety of methods (numbers, words, graphs, charts, symbols, models, etc.) to explain mathematical reasoning for a given problem at grade level.
Write the following numbers in standard notation.

1. \( 6.5 \times 10^4 = \) ______________
2. \( 8.467 \times 10^{-3} = \) ______________
3. \( 3.62 \times 10^2 = \) _____________
4. \( 1.5 \times 10^{-2} = \) ______________

Write the following numbers in scientific notation.

5. \( 5,620,000 = \) ______________
6. \( 0.000786 = \) _________________
7. \( 0.0023 = \) _________________
8. \( 421,000 = \) _________________

Circle the number that has the greatest value.

9. \( 6.5 \times 10^4 \) \( 6.5 \times 10^5 \) \( 6.5 \times 10^6 \) \( 6.5 \times 10^{-2} \)

10. \( 8.97 \times 10^4 \) \( 2.89 \times 10^{-5} \) \( 7.6 \times 10^7 \) \( 1.111 \times 10^9 \)
N 7.1.2 Add, subtract, multiply, and divide rational numbers (integers, fractions, and decimals) and take positive rational numbers to whole-number powers.

**Evaluate the following expressions.**

1. \(-345.78 + 87.2\)

2. \(-\frac{3}{9} + \frac{5}{6}\)

3. \(56^2 - 64\)

4. \(786.21 - 39.005\)

5. \(\frac{45}{46} \cdot \frac{4}{5}\)

6. \(2^3 \cdot 4.8\)

7. \(-325.25 ÷ -5\)

8. \(282.72 ÷ -6.2\)

9. \(6^2 + 8^3\)

10. \(26.3^2\)
Convert the following fractions to decimals.

1. \( \frac{42}{48} = \)  
2. \( \frac{3}{5} = \)

Convert the following fractions to percents.

3. \( \frac{25}{125} = \)  
4. \( \frac{18}{24} = \)

Convert the following decimals to percents.

5. \( 0.56 = \)  
6. \( 0.385 = \)

7. Jessica got 4 out of 5 questions correct on her test. What percentage of the questions did she get right?

8. In the student council election, \( \frac{3}{7} \) of the students voted for you and 40% of the students voted for your friend. Who won?

9. Sam made 3 out of 5 shots in his basketball game. Did he beat his old field goal percentage of 55%?

10. There were 40 students in Mrs. Smith’s class. If only 90% of those kids passed her last math test, how many students did not pass?
N 7.1.6 Calculate the percentage increase and decrease of a quantity.

Find the percentage increase or decrease. Be sure to indicate whether the change was positive (+) or negative (-).

1. Before: 30  
   After: 45  
   Change: ________

2. Before: 128  
   After: 32  
   Change: ________

3. Before: 125  
   After: 220  
   Change: ________

4. Before: $60  
   After: $54  
   Change: ________

5. Tara saw a shirt at the mall for $55.00. A week later she saw it on sale for $44.00. What was the percentage decrease?
N 7.1.7 Solve problems that involve discounts, markups, commissions, and profit, and compute simple and compound interest.

1. A store buys denim jeans at a wholesale price of $18.00 and sells them for $30.00. What was the percentage markup on the jeans?

2. If those $30.00 jeans go on sale for 20% off, what will the sale price be?

3. When those jeans sell at the sale price, what will the store’s profit be?

4. A $27.00 shirt is on a 10% off sale rack. After the discount, there is 7% tax added. What is the final price of the shirt? (round to the nearest penny)

5. Andrea works at a clothing store and makes a 15% commission. If she sells $20,000 this month, how much will she make?

6. Pam makes a 3% commission at her sales job. If she sold $150,000 last month, how much did she make?

7. Find the simple interest on an account with $1000 at 3% annually for 6 months.

8. Find the balance on an account that started with $1250 at 12% annually three months ago.

9. Find the balance of an account that started with $1000 at 12% interest compounded quarterly after 2 years.

10. Find the balance of an account that started with $2000 at 10% interest compounded quarterly after 1 year.
N 7.2.1 Understand negative whole-number exponents. Multiply and divide expressions involving exponents with a common base.

Simply the following expressions.

1. \(x^4 \cdot x^2\) 
2. \(3^{-2}\)

3. \(x^8\) 
4. \(2x^{-4}\)

5. \(x^{-5} \cdot x^3\) 
6. \(\frac{m^3}{m^6}\)

7. \(\frac{t^2 \cdot t^2}{t^3}\) 
8. \(r^3 \cdot 2r^3 \cdot r^2\)

Rewrite the following expressions with negative exponents.

9. \(\frac{1}{x^3}\) 
10. \(\frac{1}{r^2 \cdot r^5}\)
Math Worksheet

Name ____________________________

N 7.2.2 Add and subtract fractions by using factoring to find common denominators.

Factor the denominators of the fractions to find the LCD. Use this LCD to add or subtract. Simplify if possible.

1. \( \frac{2}{5} - \frac{1}{6} \)  
2. \( \frac{4}{12} + \frac{3}{7} \)

3. \( \frac{2}{6} - \frac{10}{18} \)  
4. \( \frac{5}{6} - \frac{7}{8} \)

5. \( \frac{-1}{20} + \frac{1}{2} \)  
6. \( \frac{-3}{10} + \frac{-6}{8} \)

7. \( \frac{1}{6} + \frac{2}{4} \)  
8. \( \frac{4}{9} - \frac{10}{12} \)

9. \( \frac{7}{8} - \frac{4}{9} \)  
10. \( \frac{1}{2} + \frac{6}{10} \)
N 7.2.4 Use the inverse relationship between raising a power and extracting the root of a perfect square integer; for an integer that is not square, determine without a calculator the two integers between which its square root lies and explain why.

1. \(42^2\) 2. \(5^3\)

3. \(.02^2\) 4. \(-4^4\)

5. What are the two square roots of 16?

6. What are the two square roots of 400?

7. What are the two square roots of .04?

8. Determine, without a calculator, between which two integers the positive square root of 46 lies?

9. Between which two integers does the positive square root of 30 lie?

10. Between which two integers does the positive square root of 105 lie?
N 7.2.5 Understand the meaning of an absolute value of a number; interpret the absolute value as the distance of the number from zero on a number line; and determine the absolute value of real numbers.

Find the absolute value:

1. \( |2| = \)  
2. \( |-6| = \)  

3. \( |15| = \)  
4. \( |-3| = \)  

5. \( |12| = \)  
6. \( |-5| = \)  

7. \( |-28| = \)  
8. \( |18| = \)  

9. \( |-9| = \)  
10. \( |4| = \)
Math Worksheet

Name ____________________________

M 7.1.1 Compare weights, capacities, geometric measures, times, and temperatures within and between measurement systems (e.g. mile per hour and feet per second, cubic inches to cubic centimeters).

1. While Sarah’s family is vacationing in Canada, Sarah begins to feel sick. Her parents buy a fever thermometer to take her temperature but it only has a celsius scale. Sarah’s temperature is 38.2˚C. What is her temperature in Fahrenheit? ________________________________

2. In the United States, each person uses an average of 90 gallons per day at home. On the average, how many liters of water per year does each person use? (1 gallon = 3.79 liters & 365 days = 1 year) Round to the nearest tenth. ________________________________

3. The Komodo dragon, a giant lizard that lives in Indonesia, can run up to 18 feet per second. Express this speed in miles per hour rounding to the nearest tenth. (1 mile = 5280 feet) __________

4. The Williams family buys gasoline in Montreal, Quebec for 0.66 Canadian dollars per liter. How much would the same quantity of gasoline cost in the U.S. in dollars per gallon? (Assume the exchange rate for U.S. and Canadian money is 1 U.S. dollar = 1.48 Canadian dollars) __________

5. A family is leaving Toronto, Ontario and driving to Montreal, Quebec. A sign on the road says that Montreal is 530 Kilometers from Toronto. How many miles is Montreal from Toronto? (1km = 0.621 miles) Round to the nearest tenth ________________________________
M 7.1.3 Use measures expressed as rates (e.g. speed, density) and measures expressed as products (e.g. person-days) to solve problems; check the units of the solutions; and dimensional analysis to check the reasonableness of the answer.

Give the correct units of measure for the solution.

1. 5 people \cdot 15 \text{ tables} = 75 \underline{\text{table}}

2. 40 \text{ dollars} + 5 \text{ dollars} \cdot 6 \text{ hours} = 70 \underline{\text{Hour}}

3. 7 \text{ hours} \cdot 60 \text{ minutes} = 7 \cdot 60 \text{ minutes} = 420 \underline{\text{1 hour}}

Solve the problems.

4. If you had 8 cups of corn meal, how many loaves of corn bread could you make? __________

5. To make 10 loaves of corn bread, how much sugar would you need? __________

6. How many loaves of corn bread would you have to make if you wanted to serve 30 people? __________

7. A car gets a gas mileage of 32 miles per gallon when driving in the city. How many gallons of gas would it take to drive 400 city miles? _____

8. A long distance phone call costs $1.95 for the first minute plus $.80 for each additional minute. Find the cost of a 5-minute call. ________________

9. A supermarket advertises 3 pounds of tomatoes for $1.20. How much would it cost to buy 5 pounds of tomatoes? ________________

10. A teacher has 54 research papers to read. She can read 3 of them in 40 minutes. How long will it take her to read all of the papers at the same rate? Express your answer in hours. ________________

### Easy Corn Bread (1 loaf)

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 ¼ c. flour</td>
<td>Preheat oven to 400 F.</td>
</tr>
<tr>
<td>¾ c. corn meal</td>
<td>Grease 8 x 8 inch pan.</td>
</tr>
<tr>
<td>¼ c. sugar</td>
<td>Combine dry</td>
</tr>
<tr>
<td>2 t. baking powder</td>
<td>Mix in milk, oil, and egg.</td>
</tr>
<tr>
<td>½ t. salt</td>
<td>Pour into pan. Bake 20</td>
</tr>
<tr>
<td>1 c. skim milk</td>
<td>25 minutes.</td>
</tr>
<tr>
<td>¼ c. vegetable oil</td>
<td></td>
</tr>
<tr>
<td>1 egg beaten</td>
<td>9 servings</td>
</tr>
</tbody>
</table>

9 servings
S 7.1.1 Know various forms of display for data sets, including a stem-and-leaf plot or box-and-whisker plot; use the forms to display a single set of data or to compare two sets of data.

**Life Expectancy** - In exercises 1 and 2, use the tables below, which give the life expectancy at birth in eight countries for 1980 and 2000

<table>
<thead>
<tr>
<th>Country</th>
<th>1980</th>
<th>2000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bhutan</td>
<td>45</td>
<td>54</td>
</tr>
<tr>
<td>Cambodia</td>
<td>36</td>
<td>49</td>
</tr>
<tr>
<td>India</td>
<td>53</td>
<td>64</td>
</tr>
<tr>
<td>Indonesia</td>
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<td>64</td>
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<tr>
<td>Japan</td>
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<td>80</td>
</tr>
<tr>
<td>N. Korea</td>
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<td>67</td>
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<tr>
<td>Singapore</td>
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<td>79</td>
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</tbody>
</table>


2. What conclusion can you make from your back-to-back stem-and-leaf plot? Explain your reasoning.

________________________________________________________________________________
________________________________________________________________________________
________________________________
Politics - In exercises 3 and 4, use the following information. For the period 1900-1999, the table lists the age of each president of the United States at his first inauguration and his political party.

<table>
<thead>
<tr>
<th>Age at First Inauguration of American Presidents 1900-1999</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td>56, 51, 60</td>
</tr>
<tr>
<td>43, 55, 52,</td>
</tr>
<tr>
<td>46</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

3. Use a single number line to draw two box-and-whisker plots, one for Democrats and one for Republicans.

4. Compare the plots. What conclusions can you make between the ages of Republican and Democrat Presidents in the 1900s?
S 7.1.2 Represent two numerical variables on a scatterplot and informally describe how the data points are distributed and any apparent relationship that exists between the two variables.

In exercises 1 and 2, use the table below. The table shows the number of bald eagle pairs in 48 states (not including Hawaii and Alaska) for the years 1990 through 1998. *Source U.S. Fish & Wildlife Service

<table>
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<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Pairs</td>
<td>3035</td>
<td>3399</td>
<td>3749</td>
<td>4015</td>
<td>4449</td>
<td>4712</td>
<td>5094</td>
<td>5295</td>
<td>5748</td>
</tr>
</tbody>
</table>

Use the data to make a scatter plot. Put years on the horizontal axis and number of bald eagle pairs on the vertical axis.

Use your scatter plot to describe the correlation of the data. Draw a line that shows the trend in the data.
S 7.1.3 Understand the meaning of, and be able to compute, the minimum, the lower quartile, the median, the upper quartile, and the maximum of a data set.

In exercises 1 – 5, use the box-and-whisker plot, which shows the number of baseball cards owned by card collectors in one school. Name the value.

Using the following data, create a box-and-whisker plot and compute the minimum, lower quartile, median, upper quartile, and maximum.

3, 4, 8, 10, 13, 17, 21, 26, 29, 31, 32, 36

6. Minimum number
7. Maximum number
8. Median
9. Lower quartile
10. Upper quartile
R 7.1.1 Analyze a problem by identifying relationships, distinguishing relevant from irrelevant information, identifying missing information, sequencing and prioritizing information, and observing patterns.

*Identify the irrelevant information. Do not solve the problem.*

1. You buy four boxes of fish sticks on sale at $1.99 per box. The fish sticks regularly sell for $2.49 per box. Lemons are also on sale at two for $1.00. How much money did you save by buying the fish sticks on sale?

2. A company has 412 employees at 32 branches throughout California and Texas. Each employee receives $500 as a bonus at the end of the year. How much money is spent on year-end bonuses?

*Describe the missing information that is needed to solve the problem.*

3. You buy 6 pounds of grapes at $1.19 per pound, a loaf of bread for $1.89, and cheese at $4.39 per pound. How much did you spend?

4. One case of ketchup contains 24 bottles. One case of mustard contains 30 bottles. There are 6 cases of ketchup and 8 cases of mustard to be delivered. If one bottle of ketchup weighs 8 ounces, what is the total weight of the delivery?

*List the next three numbers you expect to find in the sequence.*

5. 90, 82, 74, 66, __________, __________, __________

6. 20, 23, 27, 32, __________, __________, __________

7. 4, 16, 64, 256, __________, __________, __________

8. 100, 10, 1, 0.1, __________, __________, __________
R 7.1.3 Determine when and how to break a problem into smaller parts.

1. An electrician charges a basic service fee plus a labor charge for each hour of service. A 2 hour service job costs $74, and a 3 hour job costs $96. What is the electrician’s basic service fee?

2. In hockey, a team earns 2 points for a win, 1 point for a tie, and 0 points for a loss. Out of 82 games played, a hockey team won 46 games and lost 31 games. How many points did the team earn for the 82 games?

3. You have already read 85 pages of a 245 page novel. You plan to read 20 pages per day. How many days will it take you to finish the novel?

4. Your neighbors are paying you to organize the child’s birthday party. You plan to charge a flat fee of $25 plus $2.00 per child. How many children can the parents have at the party if they have budgeted $75?

5. At the end of the year, your club plans to use the $465 left in its treasury for a field trip to a museum. Admission to the museum is $5 per person and lunch is $3 per person. Renting a bus will cost $225. What is the number of members you can send?

6. Two friends shared the driving on a 460 mile trip. Each driver drove for 4 hours. The first driver’s speed was 5 miles per hour faster than the second driver’s speed. What were the two driver’s speeds?
Use mental math or estimation to choose the answer that is reasonable. Circle your answer.

1. Three roommates split their monthly rent evenly. If the rent is $768 per month, how much is each person’s share?
   A. $2304  
   B. $768  
   C. $256

2. You have $42 to spend on compact discs. How many can you buy if each compact disc costs $12.88?
   A. 3  
   B. 4  
   C. 5

3. A restaurant sold 256 beverages on Friday. If each cup holds about 8 ounces, about how many ounces did the restaurant sell that day?
   A. 4200 ounces  
   B. 2100 ounces  
   C. 30 ounces

4. A coat costs $225 and is on sale for half off. The sales clerk tells you the sales price of the coat is $175. Is this statement reasonable?
   A. Yes  
   B. No

5. A few years ago when a family purchased a used car, the odometer reading was 55,707 miles. Now the odometer reading is 88,851. Estimate the number of miles the family has driven the car.
   A. 40,000 miles  
   B. 25,000 miles  
   C. 30,000 miles

6. At a hobby shop, you buy model train kits that cost $6.38, $5.25, $8.45, and a locomotive that costs $15.50. Estimate if $40 is enough if you must pay a sales tax of $2.15 on your purchases.
   A. Yes  
   B. No
R 7.2.3 Estimate unknown quantities graphically and solve them by using logical reasoning and arithmetic and algebraic techniques.

Use the graph below. It shows the number of Little League Baseball players from 1950 to 1995.

1. Estimate the number of players in 1980. ______________

2. 1985? ______________

3. 1995? ______________

4. Is the number of players increasing or decreasing? How do you know?
   ______________________________________________________________________________
   ______________________________________________________________________________

5. In which five year interval did the number of players increase the most?
   ______________________________________________________________________________
   ______________________________________________________________________________
Use the list of daily low temperatures in Caribou, Maine, for the month of October, 1998.

48˚, 37˚, 37˚, 35˚, 35˚, 30˚, 25˚, 43˚, 41˚, 41˚, 44˚,
45˚, 42˚, 39˚, 40˚, 42˚, 36˚, 45˚, 44˚, 34˚, 34˚, 32˚,
30˚, 37˚, 34˚, 27˚, 19˚, 39˚, 36˚, 34˚, 39˚

6. Make a stem-and-leaf plot of the temperatures.

7. Which ten-degree interval includes the most temperature values? How does the stem-and-leaf plot help you find the answer?

8. What is the minimum temperature? What is the maximum temperature?

You have $350 in a savings account. You plan to make regular monthly deposits of $10.

Write and graph a linear equation that models the relationship between x, the number of deposits, and y, the amount in the account.

9. Equation:  

<table>
<thead>
<tr>
<th>$440</th>
<th>$430</th>
<th>$420</th>
<th>$410</th>
<th>$400</th>
<th>$390</th>
<th>$380</th>
<th>$370</th>
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Math Worksheet