Sixth Grade Spiraling Review
Week 1 of Sixth Six Weeks

<u>Advanced Preparation</u>: Spiraling Review Cards (See Sixth Grade 3rd Six Weeks Spiraling Review – 2 sheets per table group exclude the decimal)

Note: Record all work in your math journal.

Day 1	Ralph went to the bike shop. He liked three of the eight bikes he looked at. a) What fraction of the bikes did Ralph not like? Justify your response. b) Write the fraction as a decimal and a percent. Justify your response.
Day 2	Each table group will need a deck of Spiraling Review Cards (remove the decimals). Each student will draw 2 cards. a) Arrange the two cards to create a proper fraction. Record each fraction. b) Write a comparison statement using <, >, or = to compare the two fractions. c) Find the sum and difference of the two fractions. d) Change each fraction to a decimal. Justify your response. e) Find the sum and difference of the two decimals.
Day 3	A commercial claims that seven out of ten students prefer grape soda to other soda flavors. There were 320 students surveyed. Nancy said the following proportion could be used to determine the number of students surveyed who did not prefer grape soda to all other soda flavors: $\frac{3}{10} = \frac{x}{320}$ a) Is Nancy's proportion correct? Justify your response. b) Of the 320 students surveyed, how many preferred grape soda? Justify your response.
Day 4	Johnny went to the store to purchase a watermelon for the class picnic. The sign read, "Watermelons, $1.25 per pound". The watermelon Johnny purchased weighed 80 ounces. a) How many pounds does Johnny's watermelon weigh? Justify your response. b) How much did Johnny pay for the watermelon? Justify your response.
Day 5	Ann ran $3\frac{1}{4}$ miles on Monday, $2\frac{3}{8}$ miles on Tuesday, and $3\frac{1}{2}$ miles on Wednesday. a) How many total miles did she run? Write your answer as a mixed number and a decimal. Justify your response.

Sixth Grade Spiraling Review
Week 2 of Sixth Six Weeks

Note: Record all work in your math journal.

<table>
<tr><td>Day 1</td><td>A scale drawing shows the length of the base of a sand box as 3 inches and the width of the base of the sand box as 2 inches. The ratio of the scale drawing and actual sand box has a ratio of $\frac{1}{4}$ inch to 2 feet.

a) What are the dimensions of the base of the actual sand box? Justify your response.
b) What is the area and perimeter of the base of the actual sand box? Justify your response.</td></tr>
<tr><td>Day 2</td><td>Each morning Sandra waters her five plants. She gives each plant 65 milliliters of water.

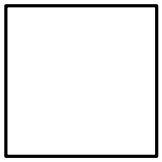
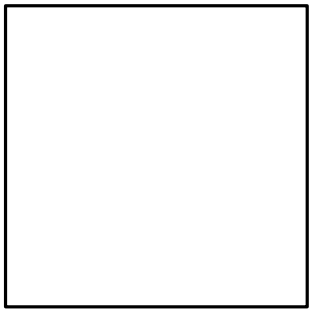
a) How many milliliters of water does she use each day? Justify your response.
b) How many milliliters will she use in a full week? Justify your response.
c) Convert the milliliters used each week into liters. Justify your response.</td></tr>
<tr><td>Day 3</td><td>Dominique wants to plant grass in her rectangular backyard. She knows that each flat of grass will cover 15 square feet. Her backyard is 165 feet by 95 feet. Dominique says she will need 145 flats of grass to cover her yard.

a) Is Dominique correct? Justify your response.
b) If Dominique is incorrect, what mistake could she have made?</td></tr>
<tr><td>Day 4</td><td>Bob needs to measure his room so he can buy new carpet. He finds the length is 180 inches and the width is 144 inches. One store sells the carpet by square feet and another sells the carpet by the square yard.

a) Write the dimensions of Bob’s room in feet? Justify your response.
b) Write the dimensions of Bob’s room in yards? Justify your response.
c) What is the area of Bob’s room in square inches? Square feet? Square yards? Justify your response.</td></tr>
<tr><td>Day 5</td><td>The table below shows the number of people who attended a baseball game and the price.
<table>
<tr><td>Number of People (x)</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td></tr>
<tr><td>Price in Dollars (y)</td><td>$36</td><td>$54</td><td>$72</td><td>$90</td><td>$108</td></tr>
</table>
a) Write an equation that shows the relationship between the number of people who attended the baseball game, (x) and the price, (y). Explain.</td></tr>
</table>

Sixth Grade Spiraling Review
Week 3 of Sixth Six Weeks

Note: Record all work in your math journal.

Day 1	Identify a real-life situation that represents each integer below. a) -5 b) 33 c) -125
Day 2	a) Find the area of each square below. 4 cm  6 cm  b) Describe the relationship of the area for the small square to the area for the large square using a percent.
Day 3	a) What is the least common multiple that Sheila can use to add fractions with denominators of 4, 16, and 32? b) Write a statement how you determined the least common multiple for 4, 16, and 32.
Day 4	Leticia and her friend, Erika, are going to the movies and decide to combine their money. Leticia has $12.24, and Erika has $16.89. a) What is the sum of these quantities? b) What is the difference in the amount of money each girl has?
Day 5	a) Write a paragraph to describe the similarities and differences between proper and improper fractions.

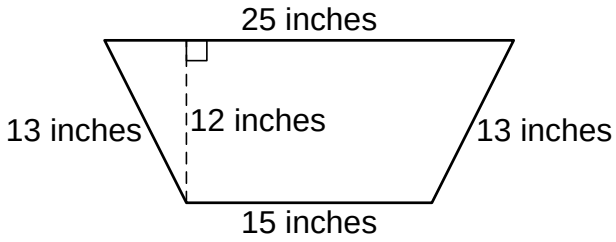
Sixth Grade Spiraling Review
Week 4 of Sixth Six Weeks

Note: Record all work in your math journal.

Day 1	The basketball coach needs to repaint the circle on the gym floor. He knows the radius of the circle is 5 feet. a) What is the length of the diameter? Justify your response. b) Estimate the circumference of the circle. Justify your response. c) Estimate the area of the circle.
Day 2	Tammy is babysitting for her neighbors. They pay her $6.00 an hour. She arrives at their house at 6:35 p.m. and is finished babysitting 3 hours and 40 minutes later. a) What time did Tammy finish babysitting? Justify your response.
Day 3	Mrs. Johnson went to the local grocery store to buy coffee sold for $2.50 per pound. She purchases 24 ounces of coffee and pays with a $5.00 bill. a) How much change will Mrs. Johnson receive from her coffee purchase? Justify your response.
Day 4	The jewelry store charges $2.00 for a bracelet and $0.25 for each bead. a) Write an expression for the cost of a bracelet with *x* number of beads. b) What is the cost of a bracelet with 18 beads? Justify your response.
Day 5	Brody's teacher asked him to count the students in his class. Brody counted 4 girls and 8 boys. a) What is the ratio of boys to girls in Brody's class? b) There are 18 students in Mrs. Daniel's class. If she has the same ratio of boys to girls as Brody's class, how many boys are in Mrs. Daniel's class? c) How many girls are in Mrs. Daniel's class?

Sixth Grade Spiraling Review
Week 5 of Sixth Six Weeks

Note: Record all work in your math journal.

Day 1	Evaluate the following expression using the order of operations: $12 \times (4 - 2) + 14 \div 2$ a) What is the first step to evaluate this expression? b) What is your solution?
Day 2	Write <, =, or > between each pair of rational numbers. Write a statement describing how you determined which symbol to place between each pair of rational numbers. a) $\frac{3}{5}$ _____ $\frac{3}{4}$ b) 2.02 ____ 2.2 c) $4\frac{3}{8}$ ____ 4.3
Day 3	The shoe factory can manufacture 50 pairs of shoes every twenty minutes. Five pairs out of the 50 pairs of shoes are defective and have to be thrown away. The supervisor claims his factory can produce 150 pairs of good shoes every hour. a) Is the supervisor correct? Justify your response. b) How many defective shoes are manufactured in an 8 hour work day? Justify your response.
Day 4	Sadie wants to make a trapezoidal tablecloth like the one below.  a) How many yards of lace will she need to go around the tablecloth? b) How many square inches of fabric will she need to make the tablecloth?
Day 5	Mason has 5 different colored shirts, 3 different kinds of shorts, and 2 different types of socks in his closet. He wants to know how many different combinations of a shirt, a pair shorts, and a pair socks he can make from the clothes in closet. a) Create a tree diagram to support your response.

Sixth Grade Spiraling Review
Sixth Six Weeks
Answer Keys
(pp. 1 of 4)

Week 1 Answer Key: *Process may vary.*

Day 1	a) Fraction did not like: 8 total bikes, liked 3, did not like ➔ 8 — 3 = 5 ➔ $\frac{5}{8}$ b) Decimal and Percent $\frac{5}{8}:\frac{5 \times 125}{8 \times 125} = \frac{625}{1000}$ = 0.625 ➔ 62.5% or 5 ÷ 8 = 0.625
Day 2	*Answers will depend on cards drawn.*
Day 3	a) $\frac{3}{10} = \frac{x}{320}$: Correct, since 7 out of 10 preferred grape soda, the ratio of those not preferring grape soda would be $\frac{10-7}{10}$ or $\frac{3}{10}$. b) Set up proportion for those who prefer grape out of 320: $\frac{7}{10} = \frac{x}{320}$ ➔ $\frac{7 \times 32}{10 \times 32} = \frac{224}{320}$ ➔ 224 prefer grape soda
Day 4	a) Weight of watermelon in pounds: 80 ounces ÷ 16 ounces per pound = 5 pounds b) Pay: 5 pounds at $1.25 per pound = $1.25 + $1.25 + $1.25 + $1.25 + $1.25 = $6.25
Day 5	a) Total miles: $3\frac{1}{4}$ miles + $2\frac{3}{8}$ miles + $3\frac{1}{2}$ miles = $3\frac{2}{8} + 2\frac{3}{8} + 3\frac{4}{8} = 8 + \frac{9}{8} = 8 + 1\frac{1}{8}$ = $9\frac{1}{8}$ = 9.125; $\frac{1}{8}$ = 1 ÷ 8 = 0.125 or $\frac{1 \times 125}{8 \times 125} = \frac{125}{1000}$ = 0.125

Week 2 Answer Key: *Process may vary.*

Day 1	a) Sandbox base dimensions: Every $\frac{1}{4}$ inch on the scale drawing, represents 2 feet of the actual sandbox base➔ 1 inch = $\frac{4}{4}$ inch, so there are 4 groups of 2 feet for every 1 inch ➔ 4 x 2 feet = 8 feet ➔ 3 inch base length is 3 x 8 feet = 24 feet and 2 inch base width is 2 x 8 feet = 16 feet. b) Area and Perimeter: use the formula for area and perimeter of a rectangle to calculate the area and perimeter ➔ 24 x 16 = 384 square feet is the area of the base of the sandbox. Perimeter of the base of the sandbox = 2(24) + 2(16) = 80 feet.
Day 2	a) Milliliters of water each day: 5 x 65 = 325 milliliters b) Milliliters for a full week: 325 milliliters x 7 days = 2,275 milliliters c) Convert the milliliters to liters: 1,000 milliliters = 1 liter ➔ 2,275 milliliters ÷ 1,000 milliliters per liter = 2.275 liters

Sixth Grade Spiraling Review
Sixth Six Weeks
Answer Keys

Week 2 Answer Key (continued): *Process may vary.*

Day 3

a) No: 165 feet x 95 feet = 15,675 square feet ➔ 15,675 square feet ÷ 15 square feet per flat = 1,045 plats
b) When dividing 15,675 ÷ 15, Dominique may have overlooked the place value position and did not put a 0 in the quotient as a place value holder.

Day 4

a) Dimensions in feet: 180 inches ÷ 12 inches per foot = 15 feet. 144 inches ÷ 12 inches per foot = 12 feet.
b) Dimensions in yards: 180 inches ÷ 36 inches per yard = 5 yards. 144 inches ÷ 36 inches per yard = 4 yards.
c) Area: 180 inches x 144 inches = 25,920 square inches. 15 feet x 12 feet = 180 square feet. 5 yards x 4 yards = 20 square yards.

Day 5

Number of People (x)	2	3	4	5	6
Price in Dollars (y)	$36	$54	$72	$90	$108

a) Equation: The price of a ticket is $18 because for every increase of 1 person, the price increases by $18. To calculate the price in dollars, multiply the number of tickets by $18 ➔ $y = 18x$.

Week 3 Answer Key: *Process may vary.*

Day 1

Answers will vary:
a) 5° below Fahrenheit
b) He/she/I have $33.00
c) 125 feet below sea level

Day 2

a) Area of small square: 4 x 4 = 16 square centimeters
Area of large square: 6 x 6 = 36 square centimeters
b) Percent for area of small square to area for large square:
Method 1: (division)
$\frac{16}{36} = \frac{4}{9}$ ➔ $4 \div 9 = 0.\overline{4}$ or $44.\overline{4}\%$
Method 2: (equivalent fraction with denominator ≈ 100)
$\frac{16}{36} = \frac{4}{9}$ ➔ $\frac{4 \times 11}{9 \times 11} = \frac{44}{99}$ is very close to $\frac{44}{100}$, therefore $\frac{44}{99} \approx 44\%$.

Day 3

a) 32
b) *Answers will vary*

Day 4

a) 12.24 + 16.89 = $29.13
b) 16.89 – 12.24 = $4.65

Day 5

a) *Sample:* Proper fractions and improper fractions both represent a part to whole relationship. The differences are proper fractions are greater than 0 and less than 1, which means the numerator is less than the denominator. An improper fraction is greater than 1, which means the numerator is greater than the denominator.

Sixth Grade Spiraling Review
Sixth Six Weeks
Answer Keys
(pp. 3 of 4)

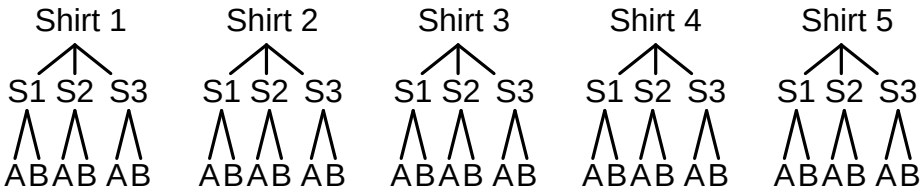
Week 4 Answer Key: *Process may vary.*

Day 1	a) Diameter: twice as long as the radius ➔ diameter = 2 x 5 feet = 10 feet b) Circumference: approximately equal in length to 3 diameters ➔ circumference ≈ 3 x 10 feet ≈ 30 feet (a little longer) c) Area: approximately equal to 3 groups of the radius squared ➔ area ≈ 3 x $(5)^2$ ≈ 3 x 25 ≈ 75 square feet (more than 75 square feet)
Day 2	a) Time left: Arrive 6:35 p. m. and time elapsed is 3 hours 40 minutes ➔ 6:35 to 7:35 is 1 hour, 7:35 to 8:35 is 1 hour, 8:35 to 9:35 is 1 hour, 9:35 to 10:15 is 40 minutes. She left at 10:15 p. m.
Day 3	a) 24 ounces = 1.5 pounds of coffee; \$2.50 (1 pound) + \$1.25 (half a pound) = \$3.75. If Mrs. Johnson pays for the coffee with \$5.00, then \$5.00- \$3.75 = \$1.25 change.
Day 4	a) Cost of bracelet expression: $0.25x + 2.00$ b) Cost for 18 beads: substitute 18 for x ➔ \$0.25(18) + \$2.00 ➔ 25¢(18) + 200¢ = 450¢ + 200¢ = 650¢ = \$6.50.
Day 5	a) Ratio of boys to girls in Brody's class: $\frac{8 \text{ boys}}{4 \text{ girls}}$ or $\frac{2 \text{ boys}}{1 \text{ girl}}$ b) Mrs. Daniel's class: $\frac{\text{boys}}{\text{students}} \rightarrow \frac{8}{(8+4)} = \frac{x}{18} \rightarrow \frac{8}{12} = \frac{x}{18} \rightarrow \frac{8 \div 4}{12 \div 4} = \frac{x}{18} \rightarrow \frac{2}{3} = \frac{x}{18} \rightarrow \frac{2 \text{ x } 6}{3 \text{ x } 6} = \frac{x}{18} \rightarrow x = 12$ boys c) There are 6 girls in Mrs. Daniel's class ➔ 18 – 12 = 6 girls.

Week 5 Answer Key: *Process may vary.*

Day 1	a) Parentheses (4 – 2) b) 31
Day 2	a) $\frac{3}{5} < \frac{3}{4}$ b) $2.02 < 2.2$ c) $4\frac{3}{8} > 4.3$
Day 3	a) No: Proportion to show pairs of shoes produced each hour ➔ $\frac{50 \text{ pairs}}{20 \text{ minutes}} = \frac{x \text{ pairs}}{60 \text{ minutes}}$; 150 pairs of shoes produced each hour, but the defective pairs need to be removed which are 5 pairs out of every 50 pairs ➔ 15 defective pairs out of 150 pairs ➔ 135 pairs of good shoes produced every hour (150 – 15 = 135). b) Defective pairs in 8 hours: 15 defective every hour ➔ 8 hours x 15 defective pairs per hour = 120 defective pairs in 8 hours

Week 5 Answer Key (continued): ***Process may vary.***

Day 4	a) Yards of lace for trim: 25 in. + 13 in. + 15 in. + 13 in. = 66 inches ➔ 66 inches ÷ 36 inches per yard = $1\frac{5}{6}$ yards b) Fabric: Area = $\frac{(b_1 + b_2) \cdot h}{2} = \frac{(25 + 15) \cdot 12}{2}$ = 240 square inches.
Day 5	a) Combinations: 5 x 3 x 2 = 30 combinations  *Note: S1 is Shorts 1, S2 is Shorts 2, S3 is Shorts 3. A is Socks 1 and Socks 2 is B.*