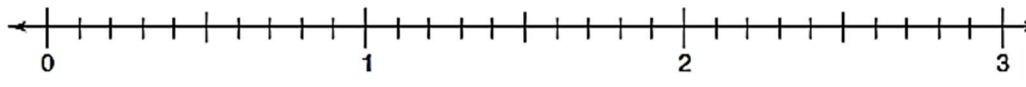
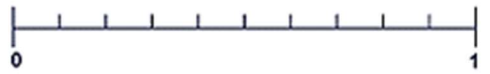


Unit 1 Study Guide

Number Sense & Quantity

What I Need to Know	Things to Remember	Practice	
1. Operations with Integers		a. Add or Subtract: $-5 + 3 = \underline{\hspace{2cm}}$ $3 - 9 = \underline{\hspace{2cm}}$ $4 - (-8) = \underline{\hspace{2cm}}$ $-5 - 4 = \underline{\hspace{2cm}}$	b. Multiply or Divide: $4 \times -5 = \underline{\hspace{2cm}}$ $18 \div -6 = \underline{\hspace{2cm}}$ $-7 \times -3 = \underline{\hspace{2cm}}$ $-8 \div -2 = \underline{\hspace{2cm}}$
		c. How do you know when the sum of a positive and negative integer will be positive?	d. c. How do you know when the sum of a positive and negative integer will be negative?
2. Real World Applications of Integers		a. Represent the scenario with an integer: -You take the elevator to 14 th floor. -The temperature is seven degrees below zero.	b. Amara jumped off the diving board that was 12 feet in the air and went 9 feet below the water's surface. How far did she travel?
3. Powers of 10		a. Multiply or Divide: $5.7 \times 100 = \underline{\hspace{2cm}}$ $0.42 \times 10 = \underline{\hspace{2cm}}$ $5670 \div 1000 = \underline{\hspace{2cm}}$	b. Multiply or Divide: $450 \times 0.01 = \underline{\hspace{2cm}}$ $56 \div 0.1 = \underline{\hspace{2cm}}$
4. Decimal Comparison		a. Order from least to greatest: 2.13, 2.561, 2.098, 2.56, 2.375, 2.36	b. Compare the following decimals: $0.56 \underline{\hspace{1cm}} 0.5$ $0.35 \underline{\hspace{1cm}} 0.350$
5. Decimals on a Number Line		a. Plot the following points on the number line. 0.45 1.78 2.95 2.6 1.3 1.75 0.16 0.6 2 2.91 	
7. Decimal Word Problems		a. The monthly rental for an apartment is \$412.50. How much would the rent be for one year?	b. A gallon of water weighs 8.3 pounds. How many pounds does 20 gallons of water weigh?
8. Comparing Decimals & Fractions		a. Name an equivalent fraction for each decimal: $0.6 = \underline{\hspace{2cm}}$ $0.37 = \underline{\hspace{2cm}}$ $3.3 = \underline{\hspace{2cm}}$ $4.5 = \underline{\hspace{2cm}}$	b. Order the numbers from least to greatest: $0.48, \frac{1}{10}, 0.85, \frac{3}{4}, \frac{1}{2}, \frac{8}{10},$ and 0.25 Then plot on the number line: 

9. Benchmark Fractions		<p>a. Determine if the following fractions are close to 0, equal to $\frac{1}{2}$, little less than $\frac{1}{2}$ ($< \frac{1}{2}$), little more than $\frac{1}{2}$ ($> \frac{1}{2}$), or close to 1:</p> $\frac{1}{3} \quad \frac{3}{8} \quad \frac{7}{9} \quad \frac{5}{6} \quad \frac{11}{12} \quad \frac{2}{10} \quad \frac{9}{10} \quad \frac{1}{8} \quad \frac{2}{6} \quad \frac{6}{11} \quad \frac{1}{4} \quad \frac{3}{4} \quad \frac{4}{9} \quad \frac{3}{7} \quad \frac{3}{4} \quad \frac{3}{6}$	
10. Ordering Fractions		<p>a. Order from least to greatest:</p> $\frac{4}{5}, \frac{4}{10}, \frac{4}{12}, \frac{4}{7}$	<p>b. Order from least to greatest:</p> $\frac{5}{9}, \frac{7}{13}, \frac{2}{7}, \frac{10}{11}$
12. Operations with Fractions		<p>a. Add or Subtract:</p> $\frac{3}{5} - \frac{1}{3} =$ $\frac{3}{5} + \frac{1}{4} =$ $2\frac{2}{3} - \frac{1}{4} =$	<p>b. Multiply or Divide:</p> $\frac{7}{10} \times \frac{2}{21} =$ $\frac{2}{5} \div \frac{1}{6} =$ $6\frac{4}{5} \div \frac{1}{2} =$
13. Operations with Fractions (Word Problems)		<p>a. A stack of board is 21 inches high. Each board is $1\frac{3}{4}$ inches thick. How many boards are there?</p>	<p>b. DJ Gabe is going to serve $\frac{1}{3}$ of a whole pizza to each guest at his party. If he expects 24 guests, how many pizzas will he need?</p>
		<p>c. $3\frac{1}{3}$ feet are cut off a board that is $12\frac{1}{4}$ feet long. How long is the remaining part of the board?</p>	<p>d. $\frac{3}{8}$ of the corn in the US is grown in Iowa. $\frac{1}{4}$ of it is grown in Nebraska. How much of the corn supply is grown in the two states?</p>

14. Using Visuals to Solve Problems.		<p>a. Use a picture to show how to divide</p> $\frac{7}{8} \div \frac{1}{4}$	<p>b. Draw a picture to solve the following: Out of 18 cookies, $\frac{2}{3}$ are chocolate chip. How many of the cookies are chocolate chip?</p>
		<p>c. Use a picture to show how multiply</p> $\frac{1}{2} \times \frac{4}{5}$	<p>d. The New York Rangers hockey team won $\frac{3}{4}$ of their games last season. If they lost 21 games, how many games did they play in the entire season?</p>
18. Estimating Square Roots		<p>a. $\sqrt{43}$ is between what two whole numbers?</p>	<p>b. $\sqrt{71}$ is between what two whole numbers?</p>
15. Simplify Radicals		<p>a. Simplify $\sqrt{20}$</p>	<p>b. Simplify $-4\sqrt{15} \cdot \sqrt{3}$</p>
16. Add or Subtract Radicals		<p>a. $2\sqrt{6} - 2\sqrt{54}$</p>	<p>b. $3\sqrt{12} + 3\sqrt{3}$</p>

		c. $\sqrt{5}(8\sqrt{12} + 1)$	d. $-3\sqrt{20} - \sqrt{5} + 8\sqrt{3}$
17. Rational & Irrational Numbers		a. Explain the outcome of $\sqrt{4} + \sqrt{16}$.	b. Explain the outcome of $2\sqrt{2}(5 + \sqrt{2})$.