Rate, Ratio and Proportional Reasoning Using Equivalent Fractions

NAME:_____

CHART

TERM	INFORMATION	PICTURE
Conversion factor	A ratio comparing two equivalent measurements.	
Double Number Lines	Diagrams that are best used when the quantities have different units.	
Equivalent Ratio	Made by multiplying or dividing both sides by the same number.	$$\frac{1}{4} = \frac{2}{8} = \frac{4}{16}$$
Quantities	Amounts that can be counted or measured	
Percent	A fraction or ratio in which the denominator is 100. A number compared to 100.	$$75\% = \frac{75}{100} = \frac{75}{100} \div \frac{25}{25} = \frac{3}{4}$$ So, $75\% = \frac{3}{4}$
Proportion	An equation which states that two ratios are equal.	

Rate	A comparison of two quantities (numbers) that have different units of measure	**Rates and Unit Rates:** $\dfrac{60 \text{ miles}}{3 \text{ hours}} \mid \dfrac{20 \text{ miles}}{1 \text{ hour}} = 20 \text{ miles/hour}$ $\dfrac{40 \text{ words}}{2 \text{ min.}} \mid \dfrac{20 \text{ words}}{1 \text{ min.}} = 20$
Rate Table	Numbers or quantities arranged in rows and columns	**Number of Pounds / Total Sales** 4 — \$10 6 — \$15 8 — \$20 10 — ? 12 — ?
Ratio	A comparison of two quantities or numbers. Can be written as a fraction (4/1), with a colon (4:1), with the word "to" (4 to 1) or using all words (four to one)	*colon* "*to*" *fraction* $4:1$ $4 \text{ to } 1$ $\dfrac{4}{1}$
Rational Number	A number that can be written as a/b where a and b are integers, but b is not equal to 0.	**What is a rational number?** $\dfrac{a}{b}$ ← integers, $b \neq 0$ Rational Number: 5 $-1\frac{2}{5}$ 0.25 $0.66\overline{6}$ ↓ ↓ ↓ Fractional Form: $\dfrac{5}{1}$ $-\dfrac{7}{5}$ $\dfrac{1}{4}$
Scale Factor	A number which **scales**, or multiplies, some quantity.	$\dfrac{240 \text{ feet}}{10 \text{ minutes}} = \dfrac{x}{5 \text{ minutes}}$
Simplify	To reduce a fraction to lowest terms. Turn improper fractions into mixed numbers.	**greatest common factor** $\dfrac{3}{12} = \dfrac{1}{4}$ 3 $\dfrac{14}{49} = \dfrac{2}{7}$ 7 $\dfrac{52}{130} = \dfrac{2}{5}$ 26
Tape Diagram	Tape diagrams are linear drawings that look like a segment of tape, used to illustrate number relationships.	5 Boys for every 4 Girls 5 4 Boys: 5 | 5 | 5 | 5 Girls: 4 | 4 | 4 | 4
Unit Rate	Ratios written as some number to 1 unit (rate per unit)	RATE UNIT RATE $\dfrac{24 \text{ miles}}{4 \text{ days}} \div \dfrac{4}{4}$ $\dfrac{6 \text{ miles}}{1 \text{ day}}$