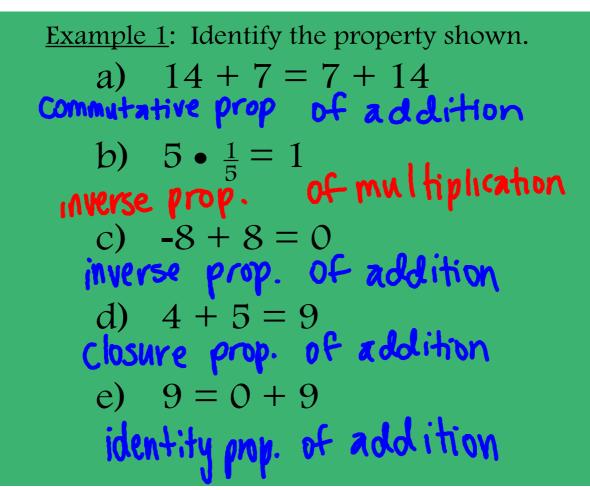
1.1 REAL NUMBERS & NUMBER OPERATIONS

| Whole Numbers | 0, 1, 2, 3 |
|--------------------|---|
| Integers | 3, -2, -1, 0, 1, 2, 3 |
| Rational Numbers | Numbers that can be written in the form of a fraction Decimals that are repeating or terminating |
| Irrational Numbers | Numbers that are not rational Decimals that neither repeat nor terminate |

| <u>PROPERTIES</u> | | |
|-------------------|----------------------|---------------------------|
| | Addition | Multiplication |
| CLOSURE | a+b is a real number | ab is a real number |
| COMMUTATIVE | a+b=b+a | ab = ba |
| ASSOCIATIVE | (a+b)+c = a+(b+c) | (ab)c = a(bc) |
| IDENTITY | a+0 = a | $a \cdot 1 = a$ |
| INVERSE | a+(-a) = 0 | $a \cdot \frac{1}{a} = 1$ |
| DISTRIBUTIVE | a(b+c) = ab + ac | |



SUBTRACTION RULE: Add the opposite. Ex: $5 - 12 \longrightarrow 5 + -12 = -7$

Example 2 a) What is the sum of 32 and -7? 32 + -7 = 25b) What is the difference of -5 and 8? -5 - 8 = -5 + -8 = -13c) What is the product of 9 and -4? 9 - 4 = -36d) What is the quotient of -5 and $-\frac{1}{2}$? $-5 = -\frac{1}{2} = -5 - -2 = 10$