**Multiplying Rational Numbers**

**Different Signs:**

**Products of Rational Numbers**

|  |  |  |
| --- | --- | --- |
| Sign of Factor p | Sign of Factor q | Sign of Product pq |
| + |  –  |  –  |
|  –  | + |  –  |

Ex (1): Aminata hiked down a canyon and stopped each time she descended **½** mile to rest. She hiked a total of **4** sections. What is her overall change in elevation?

Step(1): Write an equation (descended ½ mile a total of 4 sections (4x))

 $4 x (-\frac{1}{2})$

Step(2): Solve the equation

 $4 x \left(-\frac{1}{2}\right) = \frac{4}{1} x \left(-\frac{1}{2}\right) = \frac{4 x(-1)}{1 x 2} = -\frac{4}{2} = -2$

**Same Signs:**

**Products of Rational Numbers**

|  |  |  |
| --- | --- | --- |
| Sign of Factor p | Sign of Factor q | Sign of Product pq |
| + | + | + |
|  –  |  –  | + |

Ex (2): Multiply (– 2)( – 3.5)

 (-2)(-3.5) 🡪 [(-)(-)] = [+] and (2)(3.5) = 7 🡪 +7

Multiplication Prob 🡪 Multiply signs then Multiply numbers 🡪 Attach sign and #

Ex (3): Multiply (-3)(-1.25)

 (-3)(-1.25) 🡪 [(-)(-)] =[+] and (3)(1.25) = 3.75 🡪 +3.75