***Dividing Integers***

When dividing integers think of the words/groupings you will make from the equation

* $\left(-8\right)÷\left(-2\right)=(+4)$ 8 Negatives split into groups of negative 2 means I will have 4 groups.
* $\left(-8\right)÷\left(+2\right)=(-4)$ 8 Negatives split into 2 groups means I will have 4 negatives in each groups.

-1

-1

-1

-1

-1

-1

-1

-1

-1

-1

-1

-1

-1

-1

-1

-1



Dividing a positive by a negative seems odd; but it works out if you remember that negatives are just opposites of positives. So, eight positives split into groups of $2$ will result in four groups but the groups need to be reversed and thus a negative is needed to flip them!

* $\left(+8\right)÷\left(-2\right)=(-4)$

 1

 1

 1

 1

 1

 1

 1

 1

-1

-1

-1

-1

-1

-1

-1

-1

Four Groups of Negative Two Flipped Over (Made into Negative 4 Groups) becomes Four Groups of Positive Two, which is Positive Eight!

* A Negative multiplied or divided causes integer tiles to flip over!

***Dividing Integers***

Name: Div.: Date:

Determine the quotient using a number line.

1. $\left(-8\right)÷(+4)$
2. $\left(-20\right)÷\left(+4\right)$
3. $\left(-10\right)÷\left(-5\right)$
4. $\left(-14\right)÷(-7)$
5. $\left(-14\right)÷\left(+7\right)$
6. $\left(-16\right)÷\left(+4\right)$
7. $\left(+22\right)÷\left(-2\right)$
8. $\left(+15\right)÷\left(-3\right)$

Determine the quotient using a diagram.

1. $\left(-8\right)÷\left(+4\right)$
2. $\left(-12\right)÷\left(+4\right)$
3. $\left(-14\right)÷\left(+7\right)$
4. $\left(-16\right)÷\left(+4\right)$
5. $\left(-10\right)÷\left(-5\right)$
6. $\left(-14\right)÷(-7)$
7. $\left(+6\right)÷\left(-2\right)$
8. $\left(+9\right)÷\left(-3\right)$

Calculate the quotient.

1. $\left(-12\right)÷\left(+4\right)$
2. $\left(-6\right)÷\left(+2\right)$
3. $\left(-14\right)÷\left(+7\right)$
4. $\left(-16\right)÷\left(+8\right)$
5. $\left(-10\right)÷\left(-5\right)$
6. $\left(-14\right)÷(-7)$
7. $\left(+12\right)÷\left(-2\right)$
8. $\left(+15\right)÷\left(-5\right)$

Write integer equation(s) and use it/them to solve the following.

1. Raoul borrowed $15 per month from his mother to pay for art supplies he needed for a class. At the end of the course he owed his mother $75. How long was the course?
2. A submarine took 16min to dive 96m down from the surface. How far did it dive per minute?
3. A submarine took 12min to climb to the surface from 96m below sea level. How far did it climb per minute?
4. A scientist is drilling to collect core samples. He collected samples at 5m intervals starting at 5m below the surface of the earth. His final sample was collected at 45m below the surface of the earth. How many samples did he collect?
5. The sum of two integers is $(+20)$. Dividing the larger integer by the smaller integer gives a quotient of $(-3)$. What are the two integers?
6. After the Brexit vote, from 5pm ET and 12am ET, the British Pound dropped from 1 pound equaling $1.50 US to 1 pound equaling $1.36 US. How much did the pound drop per hour?