Recall: What is multiplication…really? Does anyone actually know?

So let’s use this concept to determine how we can do $2(-3)$.

Still having trouble understanding? Let’s take a look at a table!

|  |  |
| --- | --- |
| Multiplication | Product |
| $$3∙3$$ | 9 |
| $$3∙2$$ | 6 |
| $$3∙1$$ | 3 |
| $$3∙0$$ | 0 |
| $$3∙\left(-1\right)$$ |  |
| $$3∙\left(-2\right)$$ |  |
| $$3∙(-3)$$ |  |

Do you see a pattern for the products? If continued, what should be the next three terms?

|  |  |
| --- | --- |
| Multiplication | Product |
| $$-3∙3$$ | -9 |
| $$-3∙2$$ | -6 |
| $$-3∙1$$ | -3 |
| $$-3∙0$$ | 0 |
| $$-3∙\left(-1\right)$$ |  |
| $$-3∙\left(-2\right)$$ |  |
| $$-3∙(-3)$$ |  |

Do you see a pattern for the products? If continued, what should be the next three terms?

What are your rules?

When you multiply a positive and a negative integer, your product is: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

When you multiply a negative and a negative integer, your product is: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Use What You Know!

1. $12\left(-4\right)$ 2. $-9\left(7\right)$ 3. $-\frac{3}{4}∙\frac{1}{2}$

4. $6\left(-\frac{1}{4}\right)$ 5. $-\frac{1}{9}\left(-\frac{3}{4}\right)$ 6. $-\frac{2}{11}\left(-\frac{11}{2}\right)$

5. The price per share of Apple stock changed by -$4.50 on each of 5 consecutive days. If the starting price per share was $67.50, what was the ending price?

Division…Oh Snap!

Dividing isn’t much different than multiplication, when it comes to the rules. Actually….they are the same! Awesome, right?!?

Ex. $-\frac{20}{4}$ Ex. $-16÷\left(-4\right)$ Ex. $63÷\left(-9\right)$ Ex. $0÷8$

Wait…Mr. Z. What about $8÷0$??? Welcome to Math Jail, you criminal!

Ex. Mr. Z buys a huge 1-foot (12-inch) Kit Kat bar and breaks it in half. He decides to eat only 1/6 of one of the halves of the candy bar today, because it is so big. How much of the original candy bar will he have left over for tomorrow, in inches?

Ex. Twin 1 is rock climbing, but is afraid is he too high off of the ground! (350 ft…boss style). So he decides to start repelling down the mountain. He repelled down in 5 equal stages. How much did Twin 1’s elevation change during each stage?

Bonus Stage Reached: Dividing Fractions!

Because you guys are so awesome at multiplying and dividing, you have unlocked the bonus stage! Now who remembers how to correctly divide fractions?

Ex. $-\frac{3}{4}÷\left(-\frac{5}{2}\right)$ Ex. $-\frac{1}{4}÷\left(-\frac{5}{6}\right)$

Write: Explain how to find the quotient of $-1\frac{2}{3} $ and $-2\frac{1}{2}.$