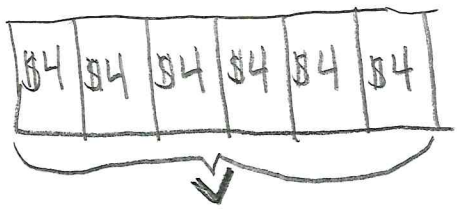
Name Answer Key Number_____

End-of-Module 3 Study Guide

1. Brady and his 5 friends decided to all pitch in and buy a videogame. If each spend $4, how much did the video game cost altogether? Write an equation using a letter to represent the unknown. Solve.



$6 \times \$4 = V$

$\$24 = V$

The videogame was $24.

2. Tana and her 2 friends went to the store to buy some cookies! YUM! *Each friend* buys one sugar cookie and one cinnamon sugar cookie. Tana only purchases one chocolate chip cookie.

Chocolate Chip	$3
Sugar Cookie	$2
Cinnamon Sugar	$1

a. Use the pricing chart above to find how much they spend altogether. Write equations using **letters** to represent the unknown. Solve. (*hint: Think about each cookie individually first!)*

$A+B+C=\$3+\$3+\$3$

$=\$9$

The girls spend $9 on cookies.

Tana = A [$3] - Chocolate

Tana's Friend = C [$2] [$1] $\$2+\$1=\$3$

Tana's Friend = B [$2] [$1] sugar Cinnamon sugar $\$2+\$1=\$3$

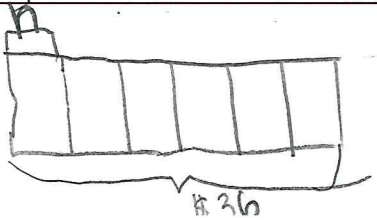
b. Tana ran into Ali at the store and he mentally checks part (a) by using $3 x 3. Explain his strategy.

Each person spent $3. There were 3 total people so $3 x 3 would show how much money they spent altogether.

3. Aalia needed to go to the store to get some holiday gifts when she saw a HUGE sale! Compare the crossed out prices to the new sale price (in bold). If all sale prices are calculated in the same way, what would the sale price be on an item that originally cost $36? Use words and equations to explain how you know. (*Think about how they could have gotten to the new sale price from the original number. There is a common pattern).*

÷6	÷6	÷6	÷6
$6 -> **$1**	$18 -> **$3**	$48 -> **$8**	$12 -> **$2**

The sale price is $6. The sale price was found by dividing by 6.



$\$36 \div 6 = n$

$\$6 = n$.

4.

a. Arnav laid out all of his favorite toy boxes below. If each toy box contains 9 toys, how many toys are there altogether?

9	9	9	9	9

T

- Write equations and solve using **a letter** to represent the unknown.
- Explain how you know answer is **reasonable.**

$5 \times 9 = T$

$T = 45$

T = total number of toys.

Since there are 5 toy boxes and 9 toys in each, I had to multiply 5x9 to find the total number of toys, 45.

B. Arnav figures out how many toys he has altogether. His work is shown below. Explain Arnav's strategy.

$(10 \times 5) - 5 = 45$

Arnav used his ten facts instead of his 9 facts. He counted 5 toy boxes and then used the (10-1) strategy. So he multipled 10x5, then subtracted one from each box to make 5.

5. Niti and Aimie decided to meet at the park to color. Niti brought over two packs of colored pencils. Each pack contains 2 bundles of 8 colored pencils. Aimie then brought over 4 packs of colored pencils. Each pack contains 8 colored pencils. Explain how the equation below shows how Niti and Aimie brought the same number of colored pencils to the park.

$(2 \times 2) \times 8 = 4 \times 8$

$4 \times 8 = 4 \times 8$

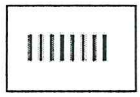
Niti

1 pack of colored pencils

$2 \times 2 \times 8$

Niti's equation is $2 \times 2 \times 8$. The 4×8 is Aimies equation. We know they bring the same pencils because, $(2 \times 2) = 4$, so $2 \times 2 \times 8$ is the same as 4×8. They each bring 32 pencils.

Aimie



1 pack of colored pencils

4×8