



$$-24 \div -4 =$$

A. 6

B. -6

C. 12

Mrs. Oakes

Unit 11 Lesson 6 & 8 REVIEW:

Dividing Signed Numbers & Arithmetic Properties

Assignments:

- Unit 11 Lesson 6 & 8 Checkpoint
(Please redo lesson with LC if needed and attend office hours for extra help!)
- Exit Ticket!!!



EXPECTATIONS

EXPECTATIONS OF ME:

- You can expect that I will...
 - Start class on time.
 - Treat everyone with respect.
 - Provide all students with what they need to be successful (students must participate to acquire).
 - Listen.
 - Find a way to help.
 - Provide timely feedback.
 - **Come to class with a smile!**

EXPECTATIONS OF YOU:

- I expect you to...
 - Be on time for class.
 - Treat all students and teachers with respect.
 - Try your best every day.
 - Ask questions at the appropriate time.
 - Use Blackboard tools when asked (participate!)
 - Listen.
 - Work in Study Island when directed.
 - **Come to class with a smile!**

- Solve calculation problems and problems arising from practical situations that involve positive and negative numbers and one or more operations.
- Students will use arithmetic properties to simplify expressions.





- What are the rules for dividing with signed numbers?
- What are the tricks for applying the arithmetic properties?



Study Island Topics

Complete any missing Pathways!

Dividing Positives and Negatives

Positive \div Positive = Positive (25 \div 5 = 5)

Positive \div Negative = Negative (25 \div -5 = -5)

Negative \div Negative = Positive (-25 \div -5 = 5)

THE RULES!

The rules for multiplying and dividing signed numbers are **THE SAME!!**

$$-36 \div 2 = -6 \times 3$$

DETERMINE THE SIGN!

$$-56 \div 8$$



Positive



Negative

YOU TRY!

$$-15 \div -3$$



Positive



Negative

PRACTICE!

Positive \div Positive = Positive (25 \div 5 = 5)

Positive \div Negative = Negative (25 \div -5 = -5)

Negative \div Negative = Positive (-25 \div -5 = 5)

$18 \div -6 = \underline{\quad}$

$35 \div 7 = \underline{\quad}$

$24 \div -6 = \underline{\quad}$

$-20 \div -5 = \underline{\quad}$

$27 \div -9 = \underline{\quad}$

$-45 \div -9 = \underline{\quad}$

$-36 \div 9 = \underline{\quad}$

$30 \div 15 = \underline{\quad}$

$-16 \div 8 = \underline{\quad}$

You Try!

$$-48 \div -4 = \underline{\quad}$$

A. 12

B. -12

C. 8

The Commutative Property



$$A + B = B + A$$



Commutative Property of Addition

- Definition – The addends can exchange places and still equal the same sum.

- Example $7+2=2+7$
 $9 = 9$

Order doesn't matter!



Commutative Property of Multiplication

- Definition – The factors can exchange places and still equal the same product.

- Example $3 \times 2 = 2 \times 3$
 $6 = 6$

Order doesn't matter!



2. Which expression completes the following equation?

$$2 \times 19 = \boxed{}$$

- A** $19 \div 2$
- B** 19×2
- C** $19 + 2$
- D** $19 - 2$

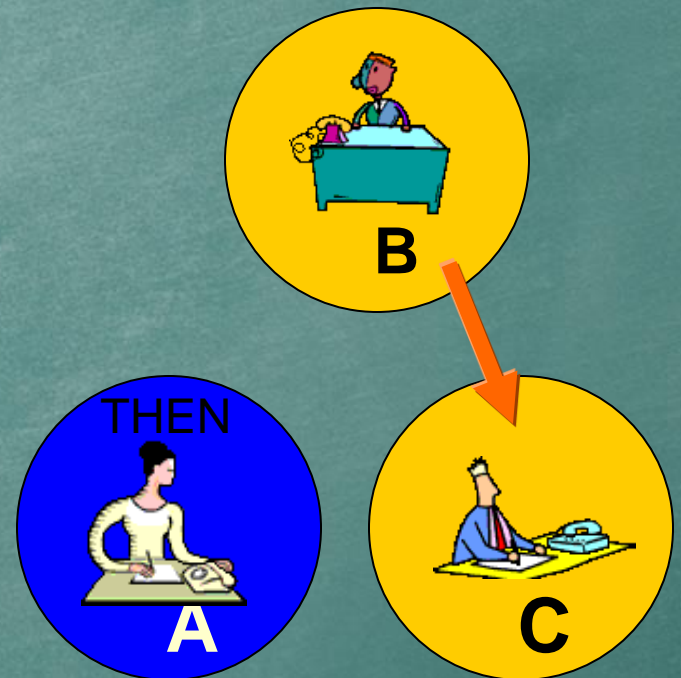
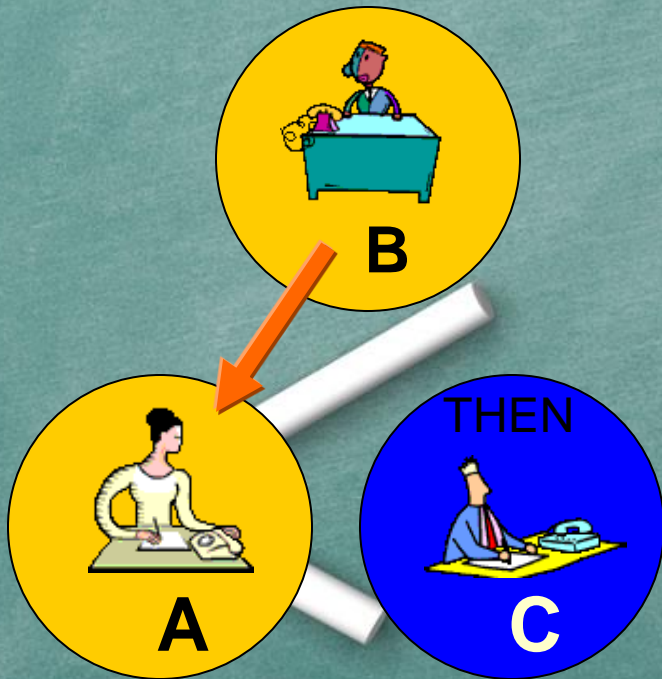
Which property is being displayed here?



The Associative Property

The parentheses identify which two associates talked first.

$$(A + B) + C = A + (B + C)$$



Associative Property of Addition

- Definition – The addends can be grouped differently and still equal the same sum.

- Example $2+(3+4)=(2+3)+4$

$$9 = 9$$



Associative Property of Multiplication

- Definition – The factors can be grouped differently and still equal the same product.

- Example $5 \times (3 \times 2) = (5 \times 3) \times 2$

$$30 = 30$$



Which expression completes the following equation?

$$26 \times (3 \times 6) = \boxed{}$$

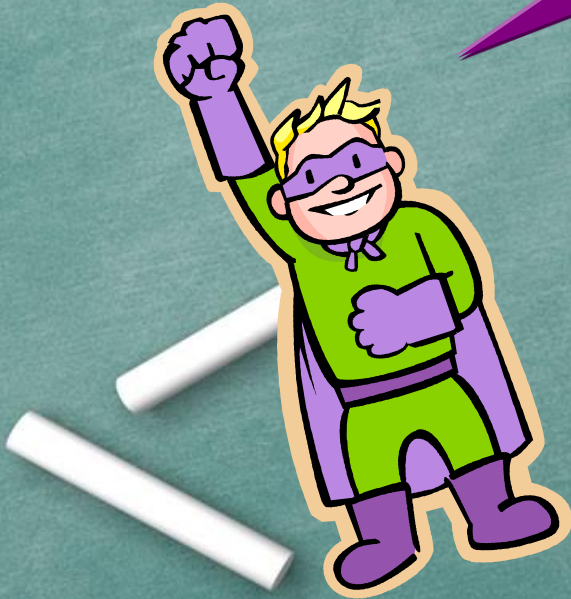
- A** $(26 \times 3) \times 6$
- B** $(26 \times 3) + (26 \times 6)$
- C** $(26 \times 3) + 6$
- D** $(26 \times 3) \times (26 \times 6)$



Which property is being displayed here?

The Identity Property of Addition & The Identity Property of Multiplication

**I am me!
You cannot change
My identity!**



The Identity Property of Addition

***Also called the Zero Property of Addition**

$$12 + 0 = 12$$

$$a + 0 = a$$



$$+ 0 =$$





If you add a zero to any number, the sum is that number.

The Identity Property of Multiplication

*Also called the Property of One

$$1 \times 84 = 84$$

$$b \times 1 = b$$


$$\times 1 =$$


If you multiply any number by 1, the product is that number.

Which of the following equations illustrates the identity property of addition?

A

$$(17 + 4) + 9 = 17 + (4 + 9)$$

B

$$17 \times 4 = 4 \times 17$$

C

$$17 + 0 = 17$$

D

$$17 + 1 = 1 + 17$$

Match the properties

Identity Property of Addition

$$(19 + 3) + 9 = 19 + (3 + 9)$$

Identity Property of Multiplication

$$17 + 1 = 1 + 17$$

Associative Property of Multiplication

$$17 + 0 = 17$$

Associative Property of Addition

$$17 \times 4 = 4 \times 17$$

Distributive Property

$$23 \times 1 = 23$$

**Commutative Property of
Multiplication**

$$2 \times (5 + 7) = (2 \times 5) + (2 \times 7)$$

Commutative Property of Addition

$$(6 \times 9) \times 7 = 6 \times (9 \times 7)$$

Quick Check

- What property is shown here?

$$66 \times 37 = 37 \times 66$$

- A. Commutative Property of Addition
- B. Commutative Property of Multiplication
- C. Associative Property of Addition
- D. Associative Property of Multiplication

Questions?





WHO'S AWESOME?

YOU'RE AWESOME

HOMWORK

- 1) Complete checkpoint Unit 11 Lessons 6 & 8
- 2) Did you take your Unit 11 Quiz?
- 3) Exit Ticket:

