

Math Sheet

Name _____ Score _____ / 17 Teacher _____ Date _____

Working with Mathematical Properties

Choose the one best answer for each question.

1. Which property is shown?

$$(6 \times 13) \times 17 = 6 \times (13 \times 17)$$

A. Transitive property of equality

B. Associative property of addition

C. Multiplication property of equality

D. Associative property of multiplication

2. Which choice is not an example? Commutative property of addition.

A. $2 + 10 = 10 + 2$

B. $a + b = b + a$

C. $5 + 8 = 8 + 5$

D. $a + b = a + c$

3. Which operation uses the Additive identity property to leave every nonzero number unchanged?

a

A. $a \div 1$

B. $a \times 0$

C. $a + 0$

D. $a \times 1$

4. Which property is shown?

$$7 \times 1 = 7$$

A. Multiplicative identity property

B. Multiplication property of zero

C. Additive inverse property

D. Additive identity property

5. Which property is shown?

$$3 + 0 = 3$$

A. Associative property of multiplication

B. Multiplicative inverse property

C. Additive identity property

D. Reflexive property of equality

6. Which choice is not an example? Commutative property of multiplication.

A. $5 \times 11 = 11 \times 5$

B. $a \times b = b \times a$

C. $7 \times 13 = 13 \times 7$

D. $a \times b = a \times c$

7. Which choice is a correct example? Distributive property.

A. $3 \times (2 + 13) = 6 + 39$

B. $6 \times 10 = 10 \times 6$

C. $6 + 11 = 17 \Rightarrow 6 + 11 - 19 = 17 - 19$

D. $6 \times 1 = 6$

8. Which property is shown?

$$3 + 13 = 13 + 3$$

A. Subtraction property of equality

B. Associative property of multiplication

C. Transitive property of equality

D. Commutative property of addition

9. Which property is shown?

$$6 \times 11 = 11 \times 6$$

A. Commutative property of multiplication

B. Additive inverse property

C. Reflexive property of equality

D. Addition property of equality

10. Which operation uses the Multiplicative identity property to leave every nonzero number unchanged?

a

A. $a \div 1$

B. $a \times 0$

C. $a \times 1$

D. $a + 0$

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Choose the one best answer for each question.

11. Which property is needed to expand this expression?

$$(x + 7) \times 3$$

A. Subtraction property of equality

C. Distributive property

B. Multiplicative identity property

D. Commutative property of multiplication

12. Which choice is not an example? Associative property of addition.

A. $(3 + 13) + 14 = 3 + (13 + 14)$

C. $(2 + 11) + 18 = 2 + (11 + 18)$

B. $(a + b) + c = (a + c) + b$

D. $(a + b) + c = a + (b + c)$

13. Which choice is not an example? Distributive property.

A. $6 \times (13 + 18) = 6 \times 13 + 6 \times 18$

C. $(2 + 8) \times 19 = 2 \times 19 + 8 \times 19$

B. $a \times (b + c) = a \times b + c$

D. $a \times (b + c) = a \times b + a \times c$

14. Which expression is the correct expansion?

$$(x + y) \times 8$$

A. $x \times y \times 8$

C. $x \times 8 + y \times 8$

B. $x \times 8 + y$

D. $x + y \times 8$

15. Which property is shown?

$$(7 + 11) + 14 = 7 + (11 + 14)$$

A. Multiplication property of zero

C. Subtraction property of equality

B. Transitive property of equality

D. Associative property of addition

16. Which property is shown?

$$5 \times (8 + 14) = 5 \times 8 + 5 \times 14$$

A. Distributive property

C. Subtraction property of equality

B. Commutative property of multiplication

D. Multiplicative identity property

17. Which choice is not an example? Associative property of multiplication.

A. $(2 \times 10) \times 17 = 2 \times (10 \times 17)$

C. $(a \times b) \times c = a \times (b \times c)$

B. $(a \times b) \times c = (a \times c) \times b$

D. $(3 \times 9) \times 19 = 3 \times (9 \times 19)$

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Answer key

Choose the one best answer for each question.

1. Which property is shown?

$$(6 \times 13) \times 17 = 6 \times (13 \times 17)$$

A. Transitive property of equality

B. Associative property of addition

C. Multiplication property of equality

D. Associative property of multiplication

Answer key: D. Associative property of multiplication

Changing only the grouping of three factors does not change their product.

2. Which choice is not an example? Commutative property of addition.

A. $2 + 10 = 10 + 2$

B. $a + b = b + a$

C. $5 + 8 = 8 + 5$

D. $a + b = a + c$

Answer key: D. $a + b = a + c$

Changing the order of two addends does not change their sum.

3. Which operation uses the Additive identity property to leave every nonzero number unchanged?

a

A. $a \div 1$

B. $a \times 0$

C. $a + 0$

D. $a \times 1$

Answer key: C. $a + 0$

Adding zero leaves a number unchanged.

4. Which property is shown?

$$7 \times 1 = 7$$

A. Multiplicative identity property

B. Multiplication property of zero

C. Additive inverse property

D. Additive identity property

Answer key: A. Multiplicative identity property

Multiplying by one leaves a number unchanged.

5. Which property is shown?

$$3 + 0 = 3$$

A. Associative property of multiplication

B. Multiplicative inverse property

C. Additive identity property

D. Reflexive property of equality

Answer key: C. Additive identity property

Adding zero leaves a number unchanged.

6. Which choice is not an example? Commutative property of multiplication.

A. $5 \times 11 = 11 \times 5$

B. $a \times b = b \times a$

C. $7 \times 13 = 13 \times 7$

D. $a \times b = a \times c$

Answer key: D. $a \times b = a \times c$

Changing the order of two factors does not change their product.

7. Which choice is a correct example? Distributive property.

A. $3 \times (2 + 13) = 6 + 39$

B. $6 \times 10 = 10 \times 6$

C. $6 + 11 = 17 \Rightarrow 6 + 11 - 19 = 17 - 19$

D. $6 \times 1 = 6$

Answer key: A. $3 \times (2 + 13) = 6 + 39$

Multiplying a sum by a factor equals adding the products of that factor and each addend.

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Answer key

Choose the one best answer for each question.

8. Which property is shown?

$$3 + 13 = 13 + 3$$

- A. Subtraction property of equality
C. Transitive property of equality

- B. Associative property of multiplication
D. Commutative property of addition

Answer key: D. Commutative property of addition

Changing the order of two addends does not change their sum.

9. Which property is shown?

$$6 \times 11 = 11 \times 6$$

- A. Commutative property of multiplication
C. Reflexive property of equality

- B. Additive inverse property
D. Addition property of equality

Answer key: A. Commutative property of multiplication

Changing the order of two factors does not change their product.

10. Which operation uses the Multiplicative identity property to leave every nonzero number unchanged?

a

- A. $a \div 1$
C. $a \times 1$

- B. $a \times 0$
D. $a + 0$

Answer key: C. $a \times 1$

Multiplying by one leaves a number unchanged.

11. Which property is needed to expand this expression?

$$(x + 7) \times 3$$

- A. Subtraction property of equality
C. Distributive property

- B. Multiplicative identity property
D. Commutative property of multiplication

Answer key: C. Distributive property

Multiplying a sum by a factor equals adding the products of that factor and each addend.

12. Which choice is not an example? Associative property of addition.

- A. $(3 + 13) + 14 = 3 + (13 + 14)$
C. $(2 + 11) + 18 = 2 + (11 + 18)$

- B. $(a + b) + c = (a + c) + b$
D. $(a + b) + c = a + (b + c)$

Answer key: B. $(a + b) + c = (a + c) + b$

Changing only the grouping of three addends does not change their sum.

13. Which choice is not an example? Distributive property.

- A. $6 \times (13 + 18) = 6 \times 13 + 6 \times 18$
C. $(2 + 8) \times 19 = 2 \times 19 + 8 \times 19$

- B. $a \times (b + c) = a \times b + c$
D. $a \times (b + c) = a \times b + a \times c$

Answer key: B. $a \times (b + c) = a \times b + c$

Multiplying a sum by a factor equals adding the products of that factor and each addend.

14. Which expression is the correct expansion?

$$(x + y) \times 8$$

- A. $x \times y \times 8$
C. $x \times 8 + y \times 8$

- B. $x \times 8 + y$
D. $x + y \times 8$

Answer key: C. $x \times 8 + y \times 8$

Multiplying a sum by a factor equals adding the products of that factor and each addend.

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Answer key

Choose the one best answer for each question.

15. Which property is shown?

$$(7 + 11) + 14 = 7 + (11 + 14)$$

- A. Multiplication property of zero
C. Subtraction property of equality

- B. Transitive property of equality
D. Associative property of addition

Answer key: D. Associative property of addition

Changing only the grouping of three addends does not change their sum.

16. Which property is shown?

$$5 \times (8 + 14) = 5 \times 8 + 5 \times 14$$

- A. Distributive property
C. Subtraction property of equality

- B. Commutative property of multiplication
D. Multiplicative identity property

Answer key: A. Distributive property

Multiplying a sum by a factor equals adding the products of that factor and each addend.

17. Which choice is not an example? Associative property of multiplication.

- A. $(2 \times 10) \times 17 = 2 \times (10 \times 17)$
C. $(a \times b) \times c = a \times (b \times c)$

- B. $(a \times b) \times c = (a \times c) \times b$
D. $(3 \times 9) \times 19 = 3 \times (9 \times 19)$

Answer key: B. $(a \times b) \times c = (a \times c) \times b$

Changing only the grouping of three factors does not change their product.