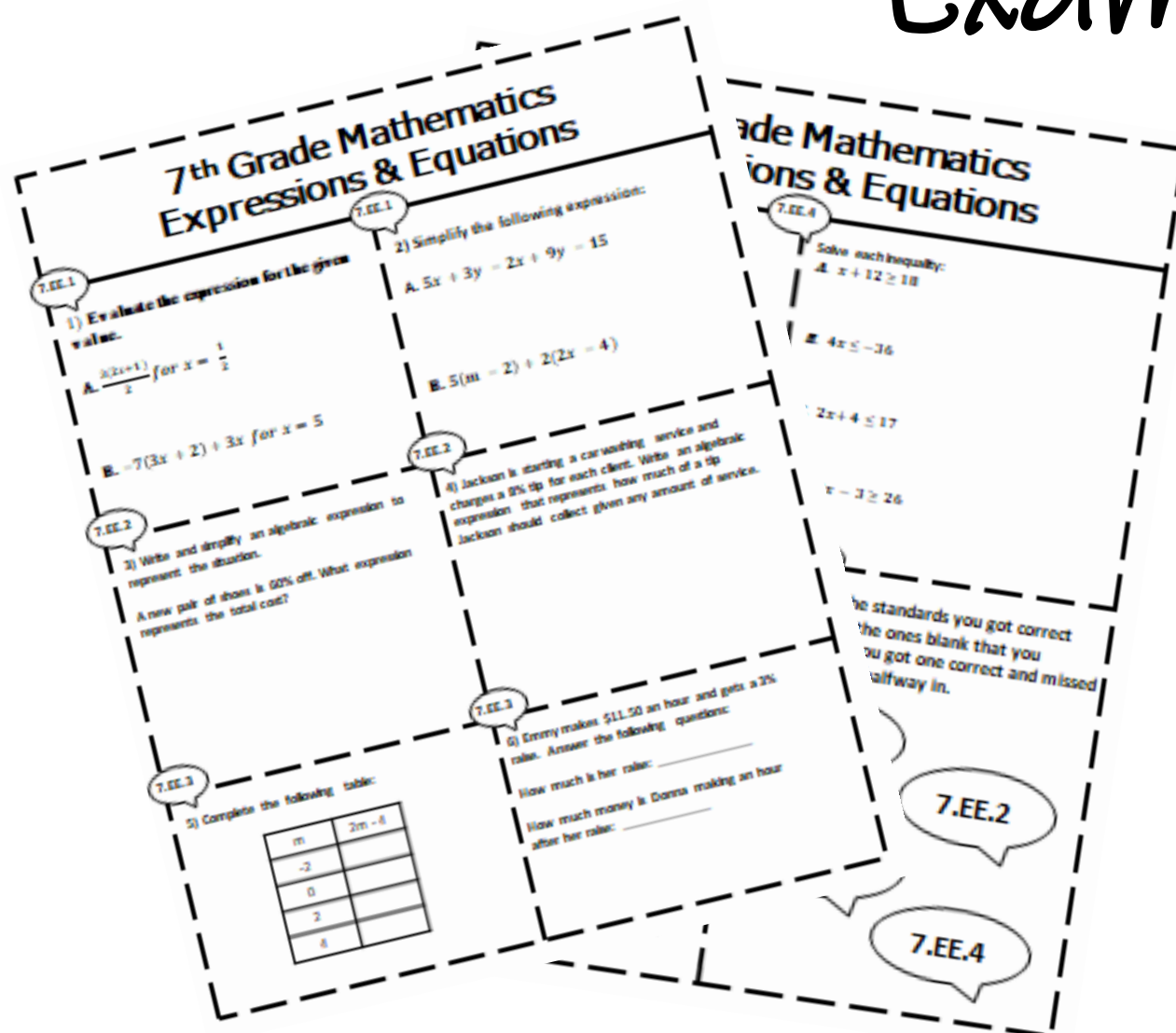


Grade

7

Aligned to the Common Core

# Expressions & Equations Exam



2 QUESTIONS PER STANDARD



By: Math in the Midwest

# 7<sup>th</sup> Grade Mathematics

## Expressions & Equations

7.EE.1

1) Evaluate the expression for the given value.

A.  $\frac{3(2x+1)}{2}$  for  $x = \frac{1}{2}$

B.  $-7(3x + 2) + 3x$  for  $x = 5$

7.EE.1

2) Simplify the following expression:

A.  $5x + 3y - 2x + 9y - 15$

B.  $5(m - 2) + 2(2x - 4)$

7.EE.2

3) Write and simplify an algebraic expression to represent the situation.

A new pair of shoes is 60% off. What expression represents the total cost?

7.EE.2

4) Jackson is starting a car washing service and charges an 8% tip for each client. Write an algebraic expression that represents how much of a tip Jackson should collect given any amount of service.

7.EE.3

5) Complete the following table:

|    |          |
|----|----------|
| m  | $2m - 4$ |
| -2 |          |
| 0  |          |
| 2  |          |
| 4  |          |

7.EE.3

6) Emmy makes \$11.50 an hour and gets a 3% raise. Answer the following questions:

How much is her raise: \_\_\_\_\_

How much money is Emmy making an hour after her raise: \_\_\_\_\_

Name: \_\_\_\_\_ Date: \_\_\_\_\_ Hour: \_\_\_\_\_

# 7<sup>th</sup> Grade Mathematics

## Expressions & Equations

7.EE.4

7) Louis bought a laptop for \$340. It was marked \$50 off because it was an opened product. He also got a 5% discount, which was taken off the original price. What was the original price of the laptop? Write and solve an equation to answer the question.

7.EE.4

Solve each inequality:

A.  $x + 12 \geq 18$

B.  $4x \leq -36$

C.  $2x + 4 \leq 17$

D.  $-3x - 3 \geq 26$

### REFLECTION

A. What do you feel like you understand the most about expressions & equations?

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B. What is one area you would like to understand better about expressions & equations?

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C. **CIRCLE the effort** (10: MAXIMUM EFFORT) you gave and put a **BOX** (10: YOU COULD TEACH THIS TO SOMEONE ELSE) around how you would rate your **UNDERSTANDING** of the content using the number line below.



# 7<sup>th</sup> Grade Mathematics

## Expressions & Equations

7.EE.1

1) Evaluate the expression for the given value.

A.  $\frac{3(2x+1)}{2}$  for  $x = \frac{1}{2}$

**3**

B.  $-7(3x + 2) + 3x$  for  $x = 5$

**-104**

7.EE.2

3) Write and simplify an algebraic expression to represent the situation.

A new pair of shoes is 60% off. What expression represents the total cost?

**Total Cost = 0.4s**  
**s = original cost of shoes**

7.EE.3

5) Complete the following table:

|    |           |
|----|-----------|
| m  | $2m - 4$  |
| -2 | <b>-8</b> |
| 0  | <b>-4</b> |
| 2  | <b>0</b>  |
| 4  | <b>4</b>  |

7.EE.1

2) Simplify the following expression:

A.  $5x + 3y - 2x + 9y - 15$

**$3x + 12y - 15$**

B.  $5(m - 2) + 2(2x - 4)$

**$5m - 10 + 4x - 8$**

**$5m + 4x - 18$**

7.EE.2

4) Jackson is starting a car washing service and charges an 8% tip for each client. Write an algebraic expression that represents how much of a tip Jackson should collect given any amount of service.

**c = original cost of service**  
**Total Cost = 1.08c**

7.EE.3

6) Emmy makes \$11.50 an hour and gets a 3% raise. Answer the following questions:

How much is her raise: **\$0.35**

How much money is Emmy making an hour after her raise: **\$11.85**

# 7<sup>th</sup> Grade Mathematics

## Expressions & Equations

7.EE.4

7.EE.4

7) Louis bought a laptop for \$340. It was marked \$50 off because it was an opened product. He also got a 5% discount, which was taken off the original price. What was the original price of the laptop? Write and solve an equation to answer the question.

$$340 = p - 50 - 0.05p$$

*p = orginial price of laptop*

**\$410.52**

Solve each inequality:

A.  $x + 12 \geq 18$

**$x \geq 6$**

B.  $4x \leq -36$

**$x \leq -9$**

C.  $2x + 4 \leq 17$

**$x \leq 6.5$**

D.  $-3x - 3 \geq 26$

**$x \leq -\frac{29}{3}$**

### REFLECTION

A. What do you feel like you understand the most about expressions & equations?

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B. What is one area you would like to understand better about expressions & equations?

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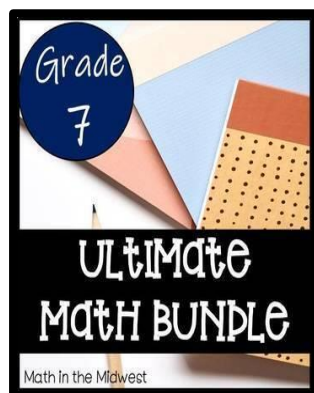
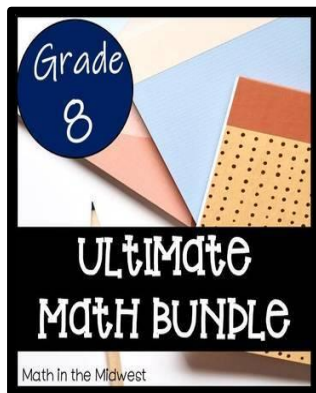
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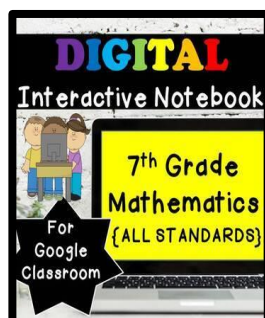
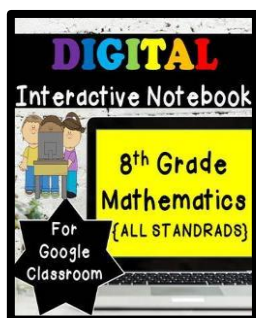
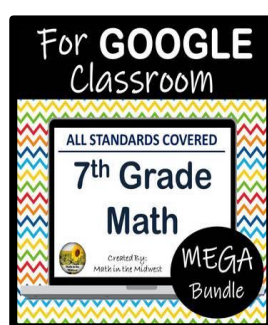
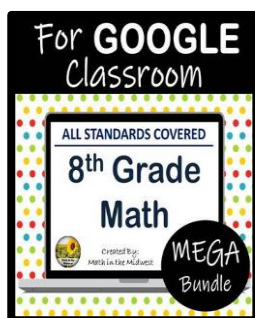
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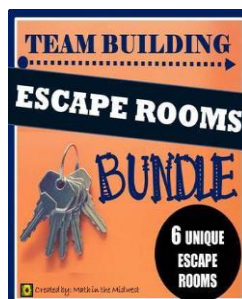
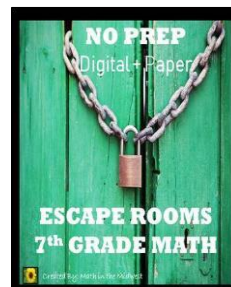
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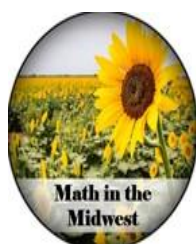
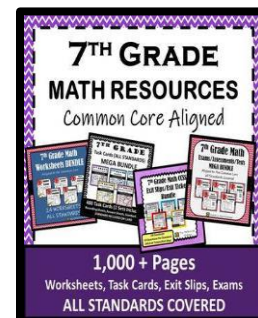
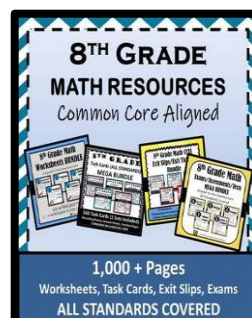
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