

Name: _____ Class: _____ Date: _____

Math Course 2 - Unit 2 - Version B - Print

1

Which property of operations is shown in $8 + 4 = 4 + 8$?

- A) Additive Identity Property
- B) Additive Inverse Property
- C) Associative Property of Addition
- D) Commutative Property of Addition

2

Which of the following equations demonstrate the Associative Property of Multiplication?

Select all that apply.

- $5 \cdot 7 = 7 \cdot 5$
- $10 \cdot 5 = 5 \cdot 10$
- $(5 \cdot 9) \cdot 7 = 5 \cdot (9 \cdot 7)$
- $3 \cdot (4 \cdot 6) = (3 \cdot 4) \cdot 6$
- $2(5 + 8) = 2(5) + 2(8)$
- $(6 + 11) + 5 = 6 + (11 + 5)$

3

Which property does the statement $(-5) + 5 = 0$ illustrate?

- A) Additive Inverse Property
- B) Commutative Property of Addition
- C) Additive Identity Property
- D) Associative Property of Addition

4

Which expression uses the Associative Property of Multiplication to rewrite the expression $(3 \cdot x) \cdot 8$?

- A) $3 \cdot (x \cdot 8)$
- B) $3 \cdot (8 \cdot x)$
- C) $(x \cdot 3) \cdot 8$
- D) $x \cdot (3 \cdot 8)$

5

Which expression shows $4(9 - 6m)$ expanded using the Distributive Property?

- A) $4(9) - 6m$
- B) $9 - 4(6m)$
- C) $4(9) - 4(6)$
- D) $4(9) - 4(6m)$

6

Which of the following expressions are factored correctly using the Distributive Property?

Select all that apply.

- $6 - 2z = 2(3 - z)$
- $7t + 14 = 7(t + 2)$
- $3a + 9 = 3(a + 9)$
- $4 - 12x = 4(4 - 3x)$
- $16 + 10m = 2(8 + 5m)$

7

A store has sales of \$820 on the first day. The second day, the store's sales increase by 12%. The expression $820 + 820(0.12)$ can be used to determine the amount of sales on the second day. Which of the following is a different form of the expression rewritten to show the second day's sales as a percent of the first day's sales?

- A) $820(0.12)$
- B) $820(1.12)$
- C) $820 + 98.40$
- D) $820 + 918.40$

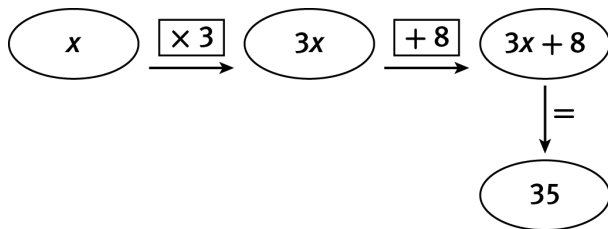
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There were 120 people at the evening performance of a play. The late night performance had 25% fewer people in the audience. Use the Distributive Property to write an expression for the number of people at the late night show.

- A) $120 - 25$
- B) $120(0.25)$
- C) $120(1 + 0.25)$
- D) $120(1 - 0.25)$

9

Kenji spent \$35.00 at the art supply store. He bought a set of watercolors for \$8.00. He also bought some small frames for \$3.00 each. Let x be the number of frames Kenji bought. The flowchart shows the operations performed on x to equal the total amount spent.



Which of the following equations can be represented by the flowchart?

- A) $3x = 8$
- B) $3x = 35$
- C) $3x + 8 = 35$
- D) $x + 3x + 3x + 8 = 35$

10

Julio joined an athletic club. There was a one-time fee of \$49.95 to join the club, plus a monthly fee of \$24.95. Julio has paid \$424.20 to be in the club for m months. Write an equation that could be used to determine how many months Julio has been in the athletic club.

11

Sivoy purchases a car. She pays \$4,000 and makes monthly payments of \$375. Let m represent the number of months it will take for Sivoy to pay for the car. Which of the following expressions represents the total amount Sivoy will pay for the car?

- A) $375m - 4,000$
- B) $4,000m - 375$
- C) $375m + 4,000$
- D) $4,000m + 375$

12

Monique is paid p dollars monthly. She also receives a bonus of \$5,500 once a year. Which expression represents the amount of money Monique is paid in one year?

- A) $12p$
- B) $5,500p$
- C) $p + 5,500$
- D) $12p + 5,500$

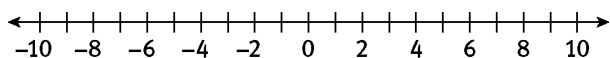
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What is the solution to the equation $7d + 17 = 115$?

- A) $d = 14$
- B) $d = 19$
- C) $d = 91$
- D) $d = 98$

14

Graph the solution to the equation $6z - 27 = 27$ on the number line below.



15

There are 162 people waiting in line to ride a roller coaster when the line closes for the day. Each roller coaster car holds 12 people. After loading c cars on the roller coaster, there are 6 people still in line. Write an equation to represent the number of cars, c , that have been loaded on the roller coaster. Solve the equation to find the number of cars on the roller coaster.

$$\square c + \square = \square$$

$$c = \square$$

16

Sal organizes postcards into x groups of 5. After he finishes organizing, he buys 16 more postcards. He has 117 postcards in all. Which equation can be used to model this situation?

- A) $16x + 5 = 117$
- B) $5x + 16 = 117$
- C) $16x - 5 = 117$
- D) $5x - 16 = 117$

17

Diego started a savings account with \$120. Every month, he deposits \$15 into the account. He wants to know the number of months, m , until his account has a balance of at least \$200. Which inequality represents this situation?

- A) $15m - 120 \geq 200$
- B) $15m - 120 \leq 200$
- C) $15m + 120 \geq 200$
- D) $15m + 120 \leq 200$

18

Noah is attending a carnival. It costs \$6 to enter the carnival, and each game costs \$2. Noah has \$28. How many games can Noah play?

- A) 11 games
- B) 17 games
- C) 22 games
- D) 44 games

19

Fiona is buying sports drinks for her baseball team. The sports drinks come in packs of 4. She also bought a single-serving drink for herself. If there are 19 players on her team, what inequality can be used to find the number of packs Fiona has to buy so that everyone on her team gets a least one drink?

- A) $4x - 1 \leq 19$
- B) $4x - 1 \geq 19$
- C) $4x + 1 \geq 19$
- D) $4x + 1 \leq 19$

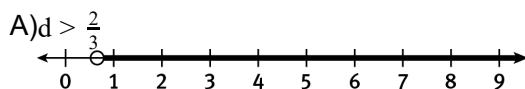
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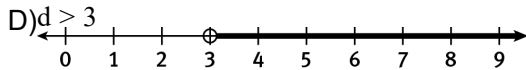
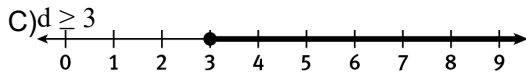
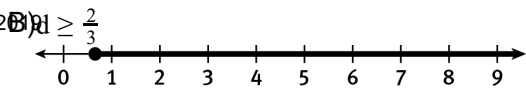
Hani is making a rectangular garden. The perimeter of the garden will be 12 feet more than 4 times its width, w , in feet. Hani has up to 42 feet of fence that can be used around the garden. What inequality can be used to find the possible widths of the garden?

- A) $12w + 4 < 42$
- B) $12w + 4 \leq 42$
- C) $4w + 12 < 42$
- D) $4w + 12 \leq 42$

21

Which of the following shows the algebraic solution and the graphical solution of the inequality $6d - 7 > 11$?





22

What is the solution to the inequality $-4x + 3 \leq 31$?

- A) $x \geq -7$
- B) $x \leq -7$
- C) $x \geq 7$
- D) $x \leq 7$

23

What is the solution to the inequality $2t + 3 \geq 19$?

- A) $t \leq 8$
- B) $t \geq 8$
- C) $t \geq 11$
- D) $t \leq 11$

24

An art class is buying boxed lunches for a museum field trip. A group pass to the museum costs \$24, and each boxed lunch costs \$6. The class can spend up to a total of \$246, and they need to know the maximum number of lunches they can buy. Which inequality represents this situation?

- A) $6x + 24 \geq 246$
- B) $6x + 24 \leq 246$
- C) $24x + 6 \geq 246$
- D) $24x + 6 \leq 246$

25

A hotel has a conference room that can be rented for meetings. The hotel charges a one-time fee of \$75 plus \$50 for each hour, h , the conference room is used. The minimum total cost to rent the conference room is \$275. Which inequality represents this situation?

- A) $75h + 50 \geq 275$
- B) $50h + 75 \geq 275$
- C) $50h + 75 \leq 275$
- D) $75h + 50 \leq 275$