



- \_\_\_\_\_ 2) The solution to a system of coincident lines is \_\_\_\_\_.
- A) zero solutions
  - B) one solution
  - C) infinite solutions
  - D) unknown
- \_\_\_\_\_ 3) What is the quotient of  $x$  and  $y$  for the given system?
- $$x + y = 7 \qquad x - y = -3$$
- A)  $-3$
  - B)  $\frac{2}{5}$
  - C)  $\frac{5}{2}$
  - D)  $10$
- \_\_\_\_\_ 4) The sum of Jacob and Grant's ages is 17. Grant's age is half of Jacob's age plus 2. How old is Jacob?
- A) 5
  - B) 7
  - C) 10
  - D) 12
- \_\_\_\_\_ 5) Solve the system for  $x$ .  $x + y = 197$  and  $3x + 2y = 519$ .
- A) 125
  - B) 72
  - C)  $-72$
  - D)  $-125$
- \_\_\_\_\_ 6) A distance of 500 miles takes 2.5 hours with a strong headwind to travel by plane. The return trip with the same plane and airspeed takes 2 hours. What is the airspeed?
- A) 25 mph
  - B) 50 mph
  - C) 200 mph
  - D) 225 mph
- \_\_\_\_\_ 7) The solution to a system of parallel lines is \_\_\_\_\_.
- A) zero solutions
  - B) one solution
  - C) infinite solutions
  - D) unknown



- \_\_\_\_\_ 13) In 1991, the cost of one letter stamp was \$0.29 and the cost of one postcard stamp was \$0.19. If a total of \$2.77 was spent on 13 stamps, how many stamps of each type were purchased?
- A) There were 6 letter stamps and 7 postcard stamps.
  - B) There were 7 letter stamps and 6 postcard stamps.
  - C) There were 10 letter stamps and 3 postcard stamps.
  - D) There were 3 letter stamps and 10 postcard stamps.

- \_\_\_\_\_ 14) The perimeter of a rectangle is 12 feet. The length is twice the width. What are the dimensions of the rectangle?
- A) The rectangle is 3 ft by 4 ft.
  - B) The rectangle is 2 ft by 6 ft.
  - C) The rectangle is 2 ft by 4 ft.
  - D) The rectangle is 3 ft by 6 ft.

- \_\_\_\_\_ 15) Ian took a test with 25 questions worth 65 points. Multiple-choice questions were worth 2 points and short answer questions were worth 5 points.

$$x + y = 25 \qquad 2x + 5y = 65$$

Ian used the system to determine that  $x = 20$ . What does  $x$  represent in the system?

- A) The number of multiple-choice questions on the test.
  - B) The number of short-answer questions on the test.
  - C) The number of points Ian earned on the test.
  - D) The number of points Ian missed on the test.
- \_\_\_\_\_ 16) Lucie's expenses for her lemonade stand included \$30 for lemons, honey, and cups. Lucie charges \$0.75 per cup of lemonade sold.

$$\text{Expenses: } y = 30 \qquad \text{Income: } y = 0.75x$$

Lucie wrote this system to find her break-even point. How many cups of lemonade will Lucie need to sell to break even?

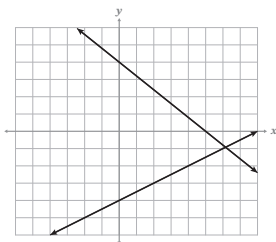
- A) Lucie needs to sell 30 cups of lemonade to break even.
- B) Lucie needs to sell 35 cups of lemonade to break even.
- C) Lucie needs to sell 40 cups of lemonade to break even.
- D) Lucie needs to sell 45 cups of lemonade to break even.

CONTINUE

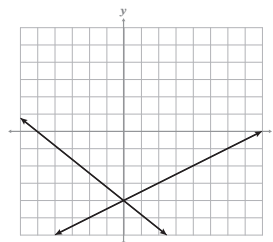
- \_\_\_\_\_ 17) Which graph represents the system of equations?

$$y = \frac{1}{2}x - 4 \quad 4x + 5y = -20$$

A)



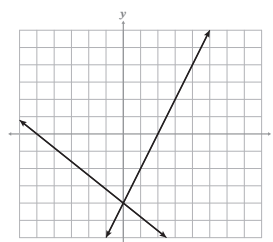
B)



C)



D)



- \_\_\_\_\_ 18) Solve the system of equations for  $y = \frac{3}{4}x - 3$  and  $3x + y = 3$ .

A)  $\left(\frac{8}{5}, -\frac{9}{5}\right)$

B)  $\left(-\frac{8}{5}, -\frac{9}{5}\right)$

C)  $(0, 3)$

D)  $\left(-\frac{8}{3}, -5\right)$

- \_\_\_\_\_ 19) Elena works two part-time jobs. She can work at most 40 hours a week and needs to make at least \$1,400 between the two jobs. She makes \$12 per hour as a cashier,  $c$ , and \$25 per hour as a nanny,  $n$ . Choose the system of inequalities that best represents Elena's jobs.

A)  $c + n = 40$

B)  $c + n \leq 1,400$

$12c + 25n = 1,400$

$12c + 25n \geq 40$

C)  $c + n < 40$

D)  $c + n \leq 40$

$12(c + n) \geq 1,400$

$12c + 25n \geq 1,400$

- \_\_\_\_\_ 20) Solve the system of equations.

$$2x - 3y = 0 \quad 6x + 18y = 36$$

A)  $\left(2, \frac{3}{4}\right)$

B)  $\left(2, \frac{4}{3}\right)$

C)  $\left(\frac{3}{4}, 2\right)$

D)  $\left(\frac{4}{3}, 2\right)$

CONTINUE

\_\_\_\_\_ 21) Mae wrote a system from the following digit problem.

*The tens digit subtracted from the units digit results in five. When the value of the digits are reversed, it is equal to ten times the units digit plus one.*

Her work was as follows:

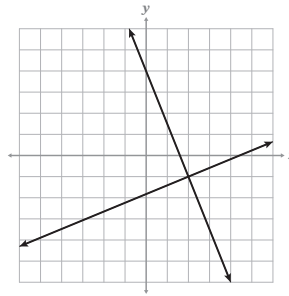
$$u - t = 5 \qquad t + 10u = 10u + 1$$

What is the number in the system Mae wrote?

- A) 1
- B) 6
- C) 16
- D) 61

\_\_\_\_\_ 22) Determine the solution given the graph.

- A) (2, -1)
- B) (-1, 2)
- C) (-2, -1)
- D) (-1, -2)

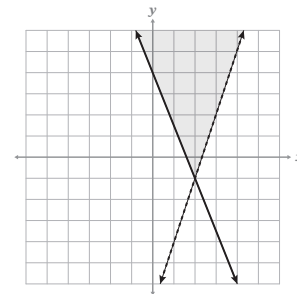


\_\_\_\_\_ 23) The sum of two numbers is 27. The difference is 65. What is the smaller number?

- A) -46
- B) -19
- C) 19
- D) 46

\_\_\_\_\_ 24) Select all possible quadrants to which the system of inequalities belongs.

- Quadrant I
- Quadrant II
- Quadrant III
- Quadrant IV



\_\_\_\_\_ 25) Select all possible solutions that will make the system of inequalities true.

$$y \geq -\frac{5}{2}x + 4 \qquad 7x + 3y > -17$$

- (2, -1)
- (2, 2)
- (0, 4)
- (2.67, 4)

