



MATHS

BOOKS - KAPLAN INC MATHS (ENGLISH)

SYSTEM OF LINEAR EQUATION

Multiple Choice Question

1. $x + y = 29$

$x + 2y = 12$

If the ordered pair (x, y) is the solution to the system of equations above, what is the value of y ?

A. -17

B. 12

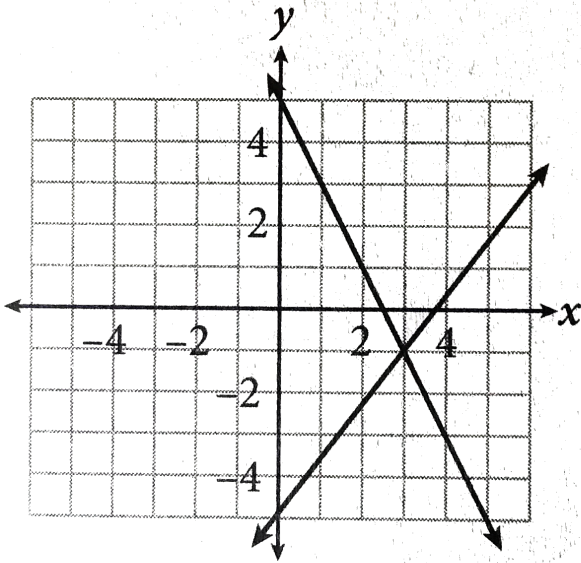
C. 46

D. 75

Answer: A



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2.

The graph of a system of linear equations is shown above. If the ordered pair (x, y) represents the solution to this system, what is the value of $x - y$?

A. -4

B. -2

C. 2

D. 4

Answer: D



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3. If $5b = 6a + 16$ and $9b = 7b - 20$, then what is the value of $3a - 2b$?

A. -8

B. -4

C. 4

D. 8

Answer: B



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$$4. 4x - 2y + 3 = 8$$

$$3x + 6y = 8y - x + 5$$

How many solutions does the system of equations shown above have?

A. 0

B. 1

C. 2

D. Indinitely many

Answer: D



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5. An office has 27 employees. If there are seven more women than men in the office, how many employees are men?



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6. The total fare for two adults and three children on an excursion boat is \$14. If each child's fare is one-half of each adult's fare, what is the total cost for one adult and one child?

A. 4

B. 5.25

C. 6

D. 6.5

Answer: C



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$$7. y = \frac{1}{5}x + 4$$

$$y = \frac{3}{7}x - 4$$

If the ordered pair (x, y) satisfies the system of equations above, what is the value of y ?

A. 0

B. 7

C. 10

D. 11

Answer: D



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$$8. 2x - 3y = -3$$

$$-12 = -4x + y$$

In what quadrant will the lines represented by the equations above intersect?

A. Quadrant I

B. Quadrant II

C. Quadrant III

D. Quadrant IV

Answer: A



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9. If $10a = 6b + 7$ and $a - 6b = 34$, then

what is the value of $\frac{-1}{3}a$?

A. -1

B. 1

C. $\frac{41}{27}$

D. $\frac{41}{9}$

Answer: B



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10. In addition to the standard airfare, a particular airline charges passengers for two kinds of travel service: \$25 to check a bag and

\$15 to upgrade to priority boarding. If the airline collected \$3,065 in baggage and priority boarding fees from 145 travel services on two flights combined, which of the following system of equations could be used to determine the number of bags checked (b) and the number of priority boarding upgrades (p) purchased on the two flights?

$$A. b + p = 145 \times 2$$

$$25b + 15p = 3,065 \times 2$$

$$\text{B. } b + p = 145$$

$$25b + 15p = 3,065$$

$$\text{C. } b + p = 145$$

$$15b + 25p = 3,065$$

$$\text{D. } b + p = \frac{145}{2}$$

$$15b + 25p = \frac{3,065}{2}$$

Answer: B



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11. The most popular items at a bakery are its raspberry scones and its lemon poppy seed muffins. The shop sells both items in boxes of 12 at a cost of \$15 per box of raspberry scones and \$9 per box of lemon poppy seed muffins. On Friday and Saturday, the shop earned \$396 by selling a total of 46 boxes of these two items. If r and l represent the number of boxes of raspberry scones and lemon poppy seed muffins sold over the two-day period, respectively, which of the following systems of

equations could be used to find the number of boxes of each type of item sold?

A. $r + l = 46$

$$15r + 9l = 396$$

B. $r + l = 12 \times 46$

$$15r + 9l = 396$$

C. $r + l = 46$

$$15r + 9l = \frac{396}{2}$$

D. $r + l = 12 \times 46$

$$15r + 9l = \frac{396}{12}$$

Answer: A



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12. Tricia manages a health bar and wants to add a new fruit and protein smoothie to the menu. To decide on the new flavor she plans to offer. Tricia sold trial-sized banana smoothies and kiwi smoothies. She charged \$2 for a banana smoothies and \$2.50 for a kiwi smoothies and she sold 40 in all, totalling \$87.

How much more maney did Tricia make on the banana smoothies than the kiwi smoothies?

A. 12

B. 17

C. 26

D. 52

Answer: B



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13. A street vendor sells two type of newspapers, one for \$0.25 and the other for \$0.40. If she sold 100 newspapers for \$28.00. How many newspaper did she sell at \$0.25?



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14. $x + y = -6$

$$y - 4x = 4$$

If the ordered pair (x, y) satisfies the system of

equations shown above, what is the value of xy ?



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15. $4x + 7y = 24$

$$6x + \frac{21}{2}y = g$$

In the system of equations above, g is a constant. If the system has infinitely many solutions, what is the value of g ?

A. 16

B. 32

C. 36

D. 72

Answer: C



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16. A small office supply store sells paper clips in packs of 100 and packs of 250. If the store has 84 packs of paper clips in stock totalling 12,300 paper clips, how many paper clips

would a customer buy if he buys half on the packs of 250 that the store has in stock?

A. 2, 900

B. 3, 250

C. 5, 800

D. 6, 500

Answer: B



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17. In a collage art class, 76 students are painting a mural on one wall of the campus amphitheater. The wall has been divided into 23 sections, and each section will be painted by a group of either 2 or 4 students. How many more sections will be painted by a group of 4 students than by a group of 2 students?

A. 6

B. 7

C. 8

D. 9

Answer: B



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$$18. \frac{5}{8}x + \frac{7}{2}y = \frac{3}{2}$$

$$\frac{1}{6}x - \frac{2}{3}y = 1$$

If the ordered pair (x, y) satisfies the system of equations above, what is the sum of the values of x and y ?

A. $\frac{5}{24}$

B. $\frac{5}{2}$

C. $\frac{29}{8}$

D. $\frac{33}{8}$

Answer: D



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19. $11x - 24y = 8$

$kx - 36y = 5$

In the system of equations above, k is a

constant. If the system has no solutions, what is the value of k ?



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20. Two moonflower vines are growing on a trellis in Mallory's backyard. She bought the first vine when it was 11 inches long and found that it grows at a rate of 0.25 inches per day. Exactly 20 days later, Mallory bought the second vine, which started at 24 inches long and has a growth rate of 0.125 inches per day.

How many days will Mallory have had the first vine when the lengths of the two vines are the same?



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