

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Algebra	Systems of two linear equations in two variables	

ID: b86123af

Hiro and Sofia purchased shirts and pants from a store. The price of each shirt purchased was the same and the price of each pair of pants purchased was the same. Hiro purchased 4 shirts and 2 pairs of pants for \$86, and Sofia purchased 3 shirts and 5 pairs of pants for \$166. Which of the following systems of linear equations represents the situation, if x represents the price, in dollars, of each shirt and y represents the price, in dollars, of each pair of pants?

- $4x + 2y = 86$

A. $3x + 5y = 166$
- $4x + 3y = 86$

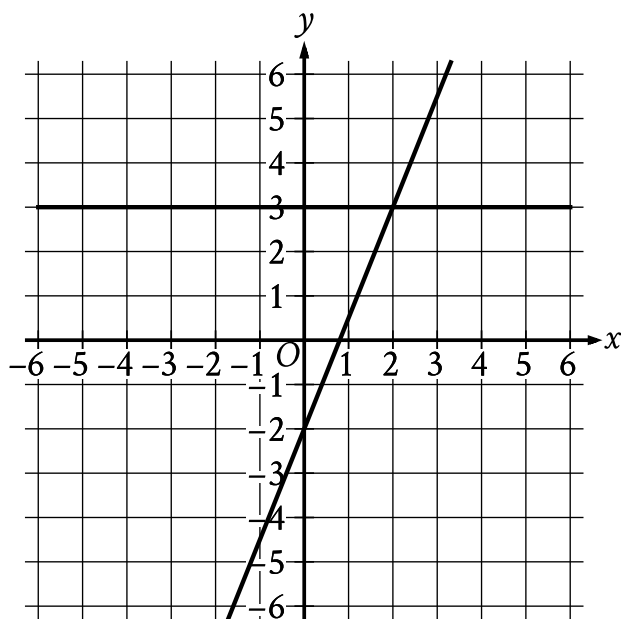
B. $2x + 5y = 166$
- $4x + 2y = 166$

C. $3x + 5y = 86$
- $4x + 3y = 166$

D. $2x + 5y = 86$

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ID: b0fc3166



The graph of a system of linear equations is shown. What is the solution (x, y) to the system?

- A. $(0, 3)$
- B. $(1, 3)$
- C. $(2, 3)$
- D. $(3, 3)$

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ID: dba8d38a

A petting zoo sells two types of tickets. The standard ticket, for admission only, costs \$5. The premium ticket, which includes admission and food to give to the animals, costs \$12. One Saturday, the petting zoo sold a total of 250 tickets and collected a total of \$2,300 from ticket sales. Which of the following systems of equations can be used to find the number of standard tickets, s , and premium tickets, p , sold on that Saturday?

A.
$$\begin{aligned}s + p &= 250 \\ 5s + 12p &= 2,300\end{aligned}$$

B.
$$\begin{aligned}s + p &= 250 \\ 12s + 5p &= 2,300\end{aligned}$$

C.
$$\begin{aligned}5s + 12p &= 250 \\ s + p &= 2,300\end{aligned}$$

D.
$$\begin{aligned}12s + 5p &= 250 \\ s + p &= 2,300\end{aligned}$$

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ID: aff28230

$$\begin{aligned}x &= 10 \\ y &= x + 21\end{aligned}$$

The solution to the given system of equations is (x, y) . What is the value of y ?

- A. **2.1**
- B. **10**
- C. **21**
- D. **31**

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ID: 8abed0fb

$y = 2x + 3$

$x = 1$

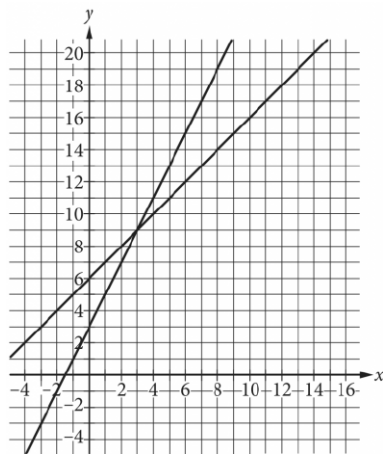
What is the solution (x,y) to the given system of equations?

- A. $(1,2)$
- B. $(1,5)$
- C. $(2,3)$
- D. $(2,7)$

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ID: e1259a5a

A system of two linear equations is graphed in the xy -plane below.



Which of the following points is the solution to the system of equations?

- A. (3,9)
- B. (6,15)
- C. (8,10)
- D. (12,18)

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ID: ca9bb527

$$y = 4x - 9$$

$$y = 19$$

What is the solution (x, y) to the given system of equations?

- A. $(4, 19)$
- B. $(7, 19)$
- C. $(19, 4)$
- D. $(19, 7)$

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ID: ece00725

Connor has c dollars and Maria has m dollars. Connor has 4 times as many dollars as Maria, and together they have a total of \$25.00. Which system of equations represents this situation?

- A.

$c = 4m$

$c + m = 25$
- B.

$m = 4c$

$c + m = 25$
- C.

$c = 25m$

$c + m = 4$
- D.

$m = 25c$

$c + m = 4$

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ID: ee031767

A dance teacher ordered outfits for students for a dance recital. Outfits for boys cost \$26, and outfits for girls cost \$35. The dance teacher ordered a total of 28 outfits and spent \$881. If b represents the number of outfits the dance teacher ordered for boys and g represents the number of outfits the dance teacher ordered for girls, which of the following systems of equations can be solved to find b and g ?

- A.
$$\begin{aligned} 26b + 35g &= 28 \\ b + g &= 881 \end{aligned}$$
- B.
$$\begin{aligned} 26b + 35g &= 881 \\ b + g &= 28 \end{aligned}$$
- C.
$$\begin{aligned} 26g + 35b &= 28 \\ b + g &= 881 \end{aligned}$$
- D.
$$\begin{aligned} 26g + 35b &= 881 \\ b + g &= 28 \end{aligned}$$

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ID: cd33b015

$$x + y = 20$$

$$2(x + y) + 3y = 85$$

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

- A. 10
- B. 15
- C. 60
- D. 65

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ID: 0d1dca87

$$3x + y = 29$$
$$x = 2$$

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

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ID: 0df106df

An online bookstore sells novels and magazines. Each novel sells for \$4, and each magazine sells for \$1. If Sadie purchased a total of 11 novels and magazines that have a combined selling price of \$20, how many novels did she purchase?

- A. 2
- B. 3
- C. 4
- D. 5

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ID: 7d89376f

A discount airline sells a certain number of tickets, x , for a flight for \$90 each. It sells the number of remaining tickets, y , for \$250 each. For a particular flight, the airline sold 120 tickets and collected a total of \$27,600 from the sale of those tickets. Which system of equations represents this relationship between x and y ?

- A. $\begin{cases} x + y = 120 \\ 90x + 250y = 27,600 \end{cases}$
- B. $\begin{cases} x + y = 120 \\ 90x + 250y = 120(27,600) \end{cases}$
- C. $\begin{cases} x + y = 27,600 \\ 90x + 250y = 120(27,600) \end{cases}$
- D. $\begin{cases} 90x = 250y \\ 120x + 120y = 27,600 \end{cases}$

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ID: 17f176ec

A movie theater charges \$11 for each full-price ticket and \$8.25 for each reduced-price ticket. For one movie showing, the theater sold a total of 214 full-price and reduced-price tickets for \$2,145. Which of the following systems of equations could be used to determine the number of full-price tickets, f , and the number of reduced-price tickets, r , sold?

- A. $f + r = 2,145$
 $11f + 8.25r = 214$
- B. $f + r = 214$
 $11f + 8.25r = 2,145$
- C. $f + r = 214$
 $8.25f + 11r = 2,145$
- D. $f + r = 2,145$
 $8.25f + 11r = 214$

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ID: 44d65912

Angela is playing a video game. In this game, players can score points only by collecting coins and stars. Each coin is worth c points, and each star is worth s points.

- The first time she played, Angela scored 700 points. She collected 20 coins and 10 stars.
- The second time she played, Angela scored 850 points. She collected 25 coins and 12 stars.

Which system of equations can be used to correctly determine the values of c and s ?

- A.

$10c + 20s = 700$

$12c + 25s = 850$
- B.

$20c + 10s = 700$

$25c + 12s = 850$
- C.

$20c + 700s = 10$

$25c + 850s = 12$
- D.

$700c + 20s = 10$

$850c + 25s = 12$

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ID: 4b76c7f1

$$2x + 7y = 9$$

$$8x + 28y = a$$

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

- A. 4
- B. 9
- C. 36
- D. 54