

Do # 7 to 12

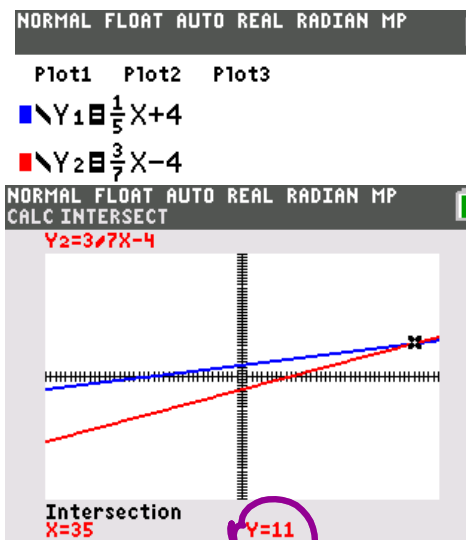
$$y = \frac{1}{5}x + 4$$

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

7. 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



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

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



$$-1/5(x) + y = 4$$

$$-3/7(x) + y = -4$$

7. 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

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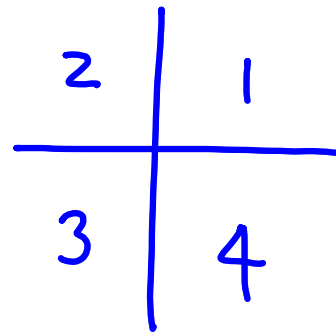
MATRIX[A] 2 x3
 $\begin{bmatrix} -0.2 & 1 & 4 \\ -0.429 & 1 & -4 \end{bmatrix}$

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rref([A])
 $\begin{bmatrix} 1 & 0 & 35 \\ 0 & 1 & 11 \end{bmatrix}$

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$\rightarrow -3y = -2x - 3 \rightarrow y = \frac{2}{3}x + 1$
 $2x - 3y = -3$
 $-12 = -4x + y \rightarrow y = 4x - 12$

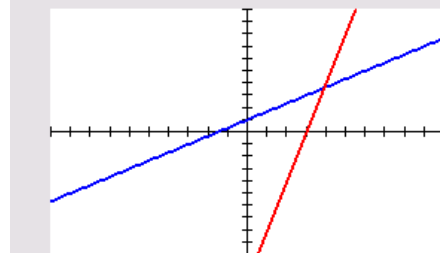


8. In what quadrant will the lines represented by the equations above intersect?



- A) Quadrant I
- B) Quadrant II
- C) Quadrant III
- D) Quadrant IV

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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) $\frac{41}{9}$

$$-\frac{1}{3}(-3) = 1$$

$$\begin{aligned} 10a &= \cancel{6b} + 7 \\ -(a &= \cancel{6b} + 34) \\ \hline 9a &= -27 \\ a &= -3 \end{aligned}$$

10. In addition to the standard airfare, a particular airline charges passengers for two kinds of travel services: \$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 systems 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) $b + p = 145 \times 2$
 $25b + 15p = 3,065 \times 2$

B) $b + p = 145$
 $25b + 15p = 3,065$

C) $b + p = 145$
 $15b + 25p = 3,065$

D) $b + p = \frac{145}{2}$
 $15b + 25p = \frac{3,065}{2}$

$$\begin{aligned} b + p &= 145 \\ 25b + 15p &= 3065 \end{aligned}$$

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) $r + l = 46 \times 12$
 $15r + 9l = \frac{396}{12}$

$$r + l = 46$$

$$15r + 9l = 396$$

12. Tricia manages a health bar and wants to add a new fruit-and-protein smoothie to the menu. To decide on the first new flavor she plans to offer, Tricia sold trial-sized banana smoothies and kiwi smoothies. She charged \$2 for a banana smoothie and \$2.50 for a kiwi smoothie, and she sold 40 in all, totaling \$87. How much more money did Tricia make on the banana smoothies than the kiwi smoothies?

- A) \$12
 B) \$17
 C) \$26
 D) \$52

$$b + k = 40$$

$$2b + 2.5k = 87$$