Activity 2.2: Systems of Equations & Inequalities

A

Name: _____ Partner's name: _____ Date: _____

Directions: Solve each problem. Write solutions as ordered pairs (or triples) unless told otherwise.
Work alone, then compare after each problem. If answers differ, find the mistake together.

1

Solve: $y = 2x + 1$ and $3x + y = 11$.

Answer: _____ Match? ☐ Yes ☐ No

2

Solve: $2x + 3y = 18$ and $4x - 3y = 0$.

Answer: _____ Match? ☐ Yes ☐ No

3

Solve: $3x + 2y = 7$ and $2x - 5y = -8$.

Answer: _____ Match? ☐ Yes ☐ No

4

How many solutions does this system have? $2x + 4y = 8$ and $x + 2y = 4$.

Answer: _____ Match? ☐ Yes ☐ No

5

Solve: $x + y + z = 6$, $x - y + z = 2$, $2x + y - z = 1$.

Answer: _____ Match? ☐ Yes ☐ No

6

2 adult tickets and 3 child tickets cost \$31. 1 adult ticket and 4 child tickets cost \$28. Find the price of one adult ticket.

Answer: _____ Match? ☐ Yes ☐ No

7

Which point is a solution of the system $y < 2x$ and $y > x - 3$: $(1, 2)$, $(3, 1)$, $(0, 5)$, or $(-1, -4)$?

Answer: _____ Match? ☐ Yes ☐ No

8

Maximize $P = 3x + 2y$ subject to $x \geq 0$, $y \geq 0$, $x + y \leq 4$, $x \leq 3$.

Answer: _____ Match? ☐ Yes ☐ No

Activity 2.2: Systems of Equations & Inequalities

B

Name: _____ Partner's name: _____ Date: _____

Directions: Solve each problem. Write solutions as ordered pairs (or triples) unless told otherwise.
Work alone, then compare after each problem. If answers differ, find the mistake together.

1 Solve: $y = x + 3$ and $x + y = 7$.

Answer: _____ Match? ☐ Yes ☐ No

2 Solve: $x + y = 7$ and $3x - y = 5$.

Answer: _____ Match? ☐ Yes ☐ No

3 Solve: $5x + 3y = 11$ and $4x - y = 2$.

Answer: _____ Match? ☐ Yes ☐ No

4 How many solutions does this system have? $3x - y = 2$ and $6x - 2y = 4$.

Answer: _____ Match? ☐ Yes ☐ No

5 Solve: $x + y + z = 6$, $y - z = -1$, $x - z = -2$.

Answer: _____ Match? ☐ Yes ☐ No

6 3 adult tickets and 2 child tickets cost \$34. 2 adult tickets and 1 child ticket cost \$21. Find the price of one adult ticket.

Answer: _____ Match? ☐ Yes ☐ No

7 Which point is a solution of the system $y < 2x - 1$ and $y > -x + 3$: $(1, 2)$, $(3, 1)$, $(0, 5)$, or $(-1, -4)$?

Answer: _____ Match? ☐ Yes ☐ No

8 Maximize $P = 3x + y$ subject to $x \geq 0$, $y \geq 0$, $x + y \leq 5$, $x \leq 3$.

Answer: _____ Match? ☐ Yes ☐ No