

Worksheet C3

Write a system of equations for each application problem (do NOT solve).

- 1) Heather's school is selling tickets to a spring musical. On the first day of ticket sales the school sold 6 adult tickets and 11 student tickets for a total of \$150. The school took in \$105 on the second day by selling 3 adult tickets and 8 student tickets. What is the price each of one adult ticket and one student ticket?

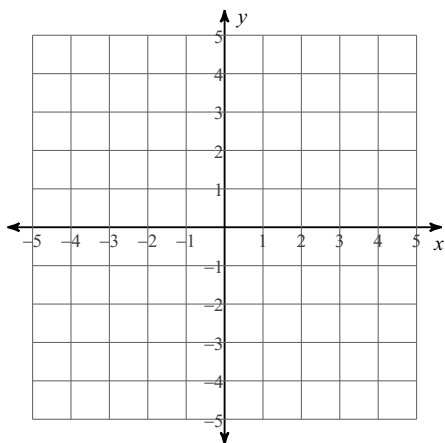
- 2) Natalie's school is selling tickets to a fall musical. On the first day of ticket sales the school sold 11 senior citizen tickets and 7 student tickets for a total of \$175. The school took in \$154 on the second day by selling 8 senior citizen tickets and 14 student tickets. Find the price of a senior citizen ticket and the price of a student ticket.

- 3) The senior classes at High School A and High School B planned separate trips to New York City. The senior class at High School A rented and filled 8 vans and 7 buses with 438 students. High School B rented and filled 2 vans and 14 buses with 624 students. Each van and each bus carried the same number of students. How many students can a van carry? How many students can a bus carry?

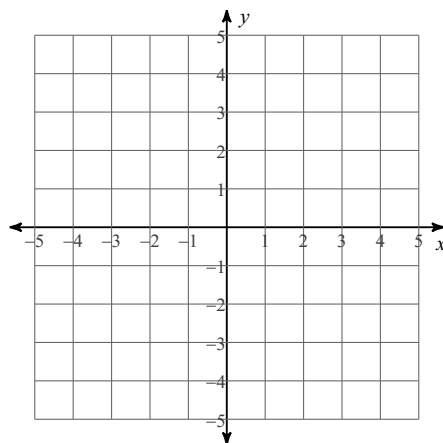
- 4) The difference of two numbers is 1. Their sum is 15. What are the numbers?

Solve each system by graphing.

$$\begin{aligned} 5) \quad & y = 2x - 3 \\ & y = -2x + 1 \end{aligned}$$

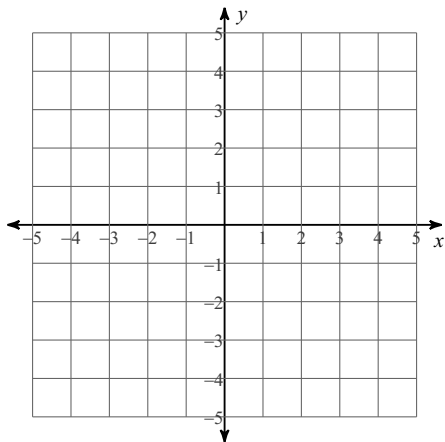


$$\begin{aligned} 6) \quad & y = 4x + 4 \\ & y = x - 2 \end{aligned}$$



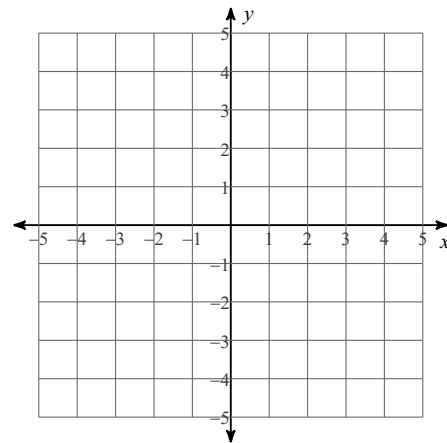
$$7) y = \frac{2}{3}x + 4$$

$$x = -3$$



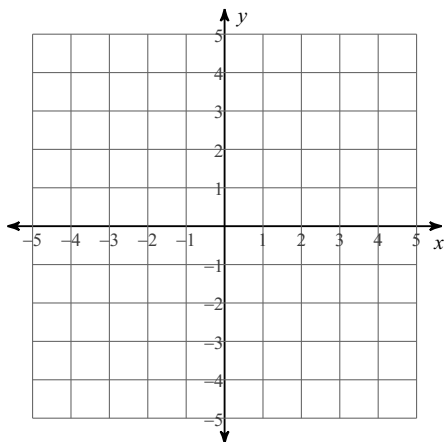
$$8) y = -\frac{2}{3}x + 4$$

$$y = \frac{1}{3}x + 1$$



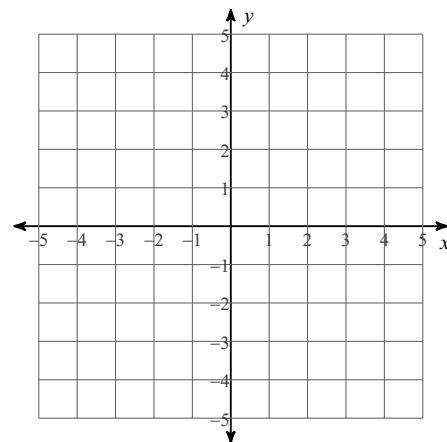
$$9) x - 3y = -6$$

$$5x + 3y = -12$$



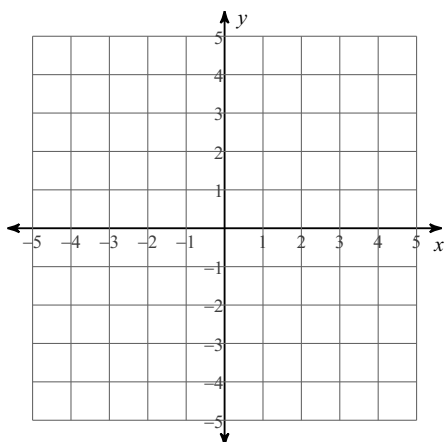
$$10) x - y = -1$$

$$x - 4y = 8$$



$$11) 2x - y = 3$$

$$4x + y = 3$$



$$12) x - 4y = 16$$

$$x - 4y = -4$$

