

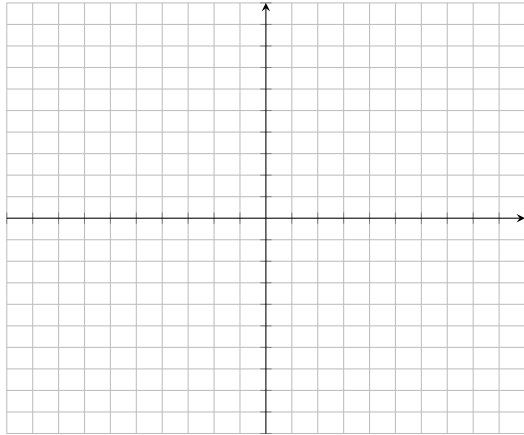
# Systems of Equation Practice

Name: \_\_\_\_\_

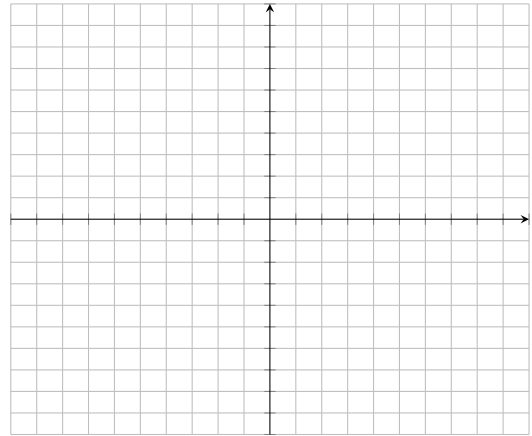
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Solve the following systems of equations by graphing.

1.  $y = \frac{4}{5}x - 7$   
 $y = -\frac{2}{5}x - 1$



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



Solve the following systems of equations using substitution.

1.  $y = -7$   
 $-3x - 4y = 22$

2.  $y = 4x$   
 $6x + 4y = 0$

3.  $x + 5y = 19$   
 $4x + 2y = -14$

4.  $-5x + 4y = -17$   
 $2x - 5y = 0$

Solve the following systems of equations using elimination.

1.  $4x - y = -10$   
 $-12x + 7y = 22$

2.  $24x - 9y = 3$   
 $8x - 3y = 1$

3.  $-5x - 7y = -17$   
 $-7x - 2y = -16$

4.  $-2x - 3y = -3$   
 $5x + 5y = 10$

Write a system of equations to represent each scenario, then solve.

1. May goes to a lot of games—basketball, volleyball, soccer, football, and more. Last month, she had an idea. To make it easy for everyone to support the team, she decided to design and order a *lot* of temporary tattoos with the school mascot. It cost her \$20 to design and costs \$1.15 for each temporary tattoo. She sells them for \$2 each, which means she gets to support the team *and* make money doing it. How many tattoos will she need to sell before she starts making a profit?

Write the system of equation representing her situation, show the solution, and then write your answer.

2. Your cousin is deciding whether to buy a car now or to wait until he has more money saved. He has two options to buy the car he wants. His first option is to spend \$500 today, then pay \$195 per month until it's paid off. His second option is to spend \$4,000 today, then pay \$55 per month until it's paid off. He'd have to wait six months to save enough for the second option. Either way, he'll pay it off in about 4 years. What should he do?

Write a system of equations to compare his two options over time, then solve the system and recommend what he should do.

3. After the game, Tank helped put away the cash box where they had been selling tickets. As he picked it up, he spotted a dollar lying on the table next to the box. "Does the dollar belong in the box?" he wondered.

Tank opened the box and counted 90 ticket stubs and \$394. The price of tickets was \$3 for a child and \$5 for an adult. Did the dollar belong in the box? Justify your answer.

4. You and your friends were playing basketball last week. You were short a player, so your younger sister joined—and crushed it. She scored 12 shots and 28 points. How many 2 and 3 point baskets did she score?