SYSTEMS OF LINEAR EQUATIONS WORD PROBLEMS: GRAPHING

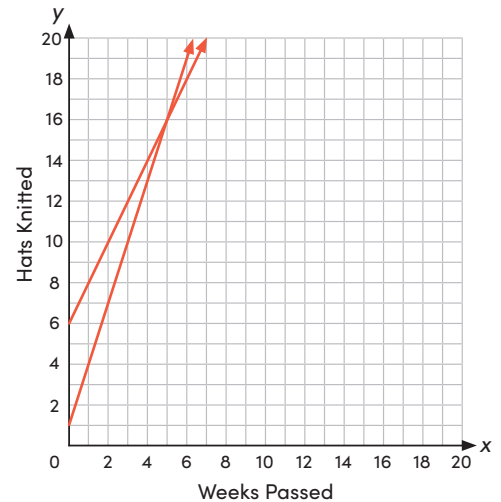For each problem below, write a system of equations, solve by graphing, and write your final answer as a complete sentence.

1 Gia and her sister are knitting hats for babies born at a local hospital. Gia has knitted 6 hats and set a goal of knitting 2 more hats every week. Gia's sister has knitted 1 hat and set a goal of knitting 3 more hats every week. They want to make their donation when they have completed the same number of hats. If they both meet their goals, how many hats will each girl donate?

$y = 2x + 6$
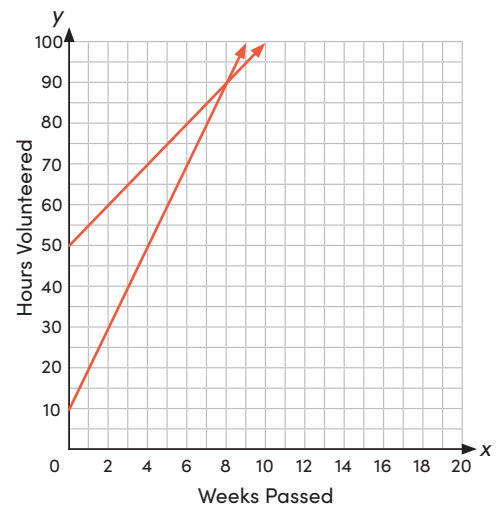
$y = 3x + 1$

Each girl will donate 16 hats.

2 Lara and Hayden volunteer at an animal shelter. Lara already volunteered 50 hours and will volunteer 5 more hours each week. Hayden already volunteered 10 hours and will volunteer 10 more hours each week. At these rates, how many weeks will it take Lara and Hayden to volunteer the same number of hours?

$y = 5x + 50$

$y = 10x + 10$

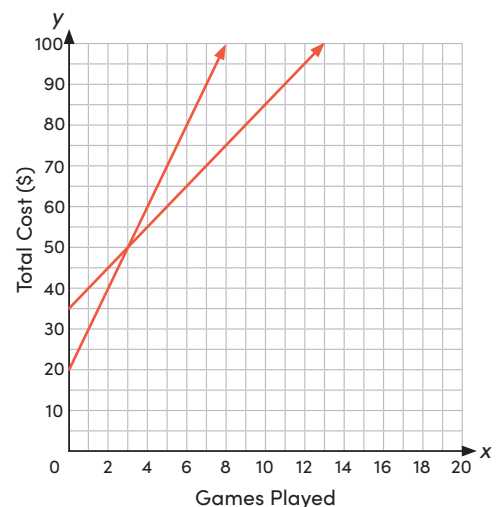**It will take Lara and Hayden 8 weeks to volunteer the same number of hours.**

3 Last weekend, Aaliyah played laser tag at Laser Adventures, and Luis played laser tag at Glow Zone. Laser Adventures charges a $20 equipment fee and $10 for each game of laser tag. Glow Zone charges a $35 equipment fee and $5 for each game of laser tag. If Aaliyah and Luis paid the same amount to play laser tag, how many games did they each play?

$y = 10x + 20$

$y = 5x + 35$

Aaliyah and Luis each played 3 games of laser tag.
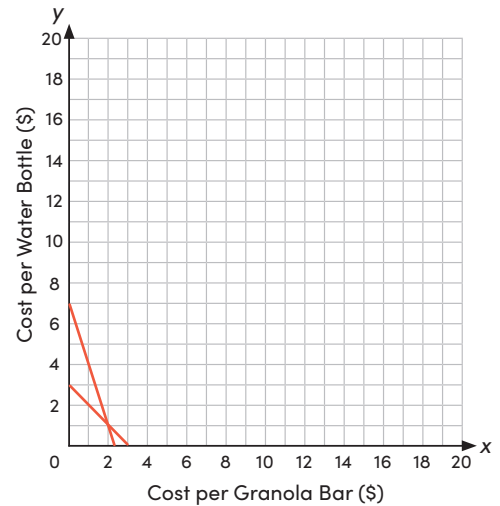
SYSTEMS OF LINEAR EQUATIONS WORD PROBLEMS: GRAPHING

For each problem below, write a system of equations, solve by graphing, and write your final answer as a complete sentence.

④ Keenan and Felipe stopped at the snack bar before their soccer game. Keenan spent $7 buying 3 granola bars and 1 bottle of water. Felipe spent $6 buying 2 granola bars and 2 bottles of water. How much does the snack bar charge for a granola bar? How much does the snack bar charge for a bottle of water?

$3x + y = 7$
$2x + 2y = 6$

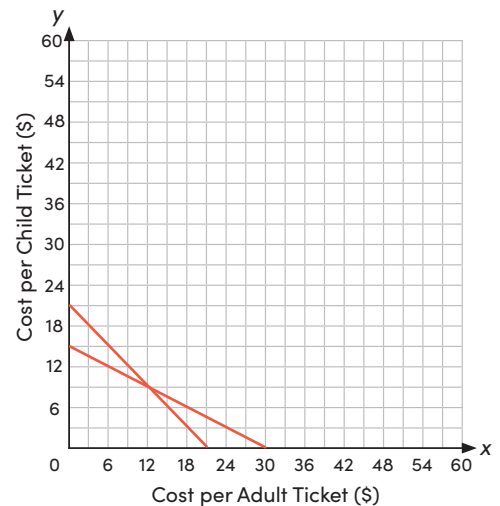The snack bar charges $2 for a granola bar and $1 for a bottle of water.

⑤ The Lee family and Houston family are going to the planetarium together. The Lee family bought 2 adult tickets and 2 child tickets for a total of $42. The Houston family bought 2 adult tickets and 4 child tickets for a total of $60. How much does an adult ticket cost? How much does a child ticket cost?

$2x + 2y = 42$
$2x + 4y = 60$

An adult ticket costs $12, and a child ticket costs $9.

⑥ At Bay Beach Tennis Club, there are 10 tennis courts. This morning, all of the tennis courts are being used, some for doubles matches and some for singles matches. Each court with a doubles match has 4 players, and each court with a singles match has 2 players. There are 28 players in all. On how many courts are people playing doubles? On how many courts are people playing singles?

$x + y = 10$
$4x + 2y = 28$

People are playing doubles on 4 courts, and people are playing singles on 6 courts.