Read each problem and solve.

1. Dani bought a total of 8 pounds of peanuts and cashews. Peanuts, p, cost $2 per pound and cashews, c, cost $5 per pound. The total amount Dani spent on the peanuts and cashews was $25. Write a system of equation and solve it to find how many pounds of peanuts Dani bought.

2.   A postage stamp is shaped like a rectangle with a perimeter of 88 millimeters. The length x is 10 millimeters less than twice the width y. The system of equations shown below represents this situation.

$$\begin{cases} x = 2y - 10 \\ 2x + 2y = 88 \end{cases}$$

Which of the following statements is true?

A. The width of the stamp is 12 millimeters.
B. The length of the stamp is 36 millimeters
C. The width of the stamp is 8 millimeters less than the width.
D. The length of the stamp is 10 millimeters greater than the width.

3. Molly is selling bracelets and necklaces at a craft fair. The cost of 4 bracelets and 3 necklaces is $23.50. The cost of 5 bracelets and 2 necklaces is $21.50. The system of equations shown below represents this situation.

$$\begin{cases} 4b + 3n = 23.50 \\ 5b + 2n = 21.50 \end{cases}$$

A customer bought 1 bracelet and 1 necklace. How much money did the customer spend?

A. $6.50   B. $7.00   C. $7.50   D. $8.00

4. Lorenzo has 46-cent stamps and 20-cent stamps. He needs to use stamps totaling at least $3.00 to mail a package. There is enough room for up to 9 stamps on the package. Write a system of inequalities where x = number of 46-cent stamps and y = number of 20-cent stamps.

5. Jena works two part-time jobs after school. When she works as a baby sitter she makes $5 per hour and when she works as a tutor she makes $8 per hour.   Next week she wants to make at least $80, however, her parents will only let her work a maximum of 15 hours. Write a system of linear inequalities where $x =$ the number hours working as a baby sitter and $y =$ the number of hours working as a tutor. Graph the solution below, be sure to label your axes.
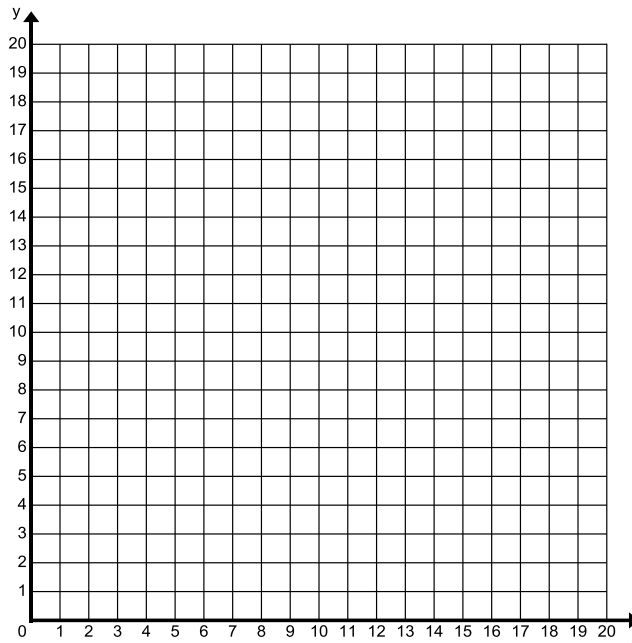
Give three possible combinations of baby sitting and tutoring hours she could work so that she makes at least $80.

6. Randy is raising money for a charity. He makes either 18 telephone calls per day or 10 home visits per day. Randy wants to contact at least 100 people next week. This situation can be represented by the following system of inequalities, where $x =$ number of days making telephone calls and $y =$ number of days making home visits.

$$\begin{cases} x + y \le 7 \\ 18x + 10y \ge 100 \end{cases}$$

Which of the following is a true statement?

A.   Randy can reach his goal by making home visits only.
B.   Randy can reach his goal with only 2 days of telephone calls.
C.   If Randy does home visits for 4 days, he only needs 2 days of telephone calls.
D.   If Randy makes telephone calls for 5 days, he only needs 1 day of home visits.

7. Marnie needs to print posters for a community event. Stellar Printers will charge Marnie a $200 set-up fee plus $2 per poster. Artemis Printers will charge Marnie a $400 set-up fee plus $1.50 per poster. Write a system of equation where $n = $ the number of posters and $C = $ cost of the posters.

8. Kerry asked a bank teller to cash a $390 check using only $20 bills and $50 bills. The teller gave her a total of 15 bills. Let x be the $20 bills and y be the $50 bills. Write a system of linear equations that models this situation. How many $20 bills did Kerry receive?

9. The band Inferno sells CDs for $5 each and t-shirts for $15 each. Anna wants to buy some CDs and t-shirts as gifts for her friends, but she can only spend at most $75. Write and solve an inequality where $x = $ the number of CDs and $y = $ the number of t-shirts. Graph your solution below, be sure to label the axes.
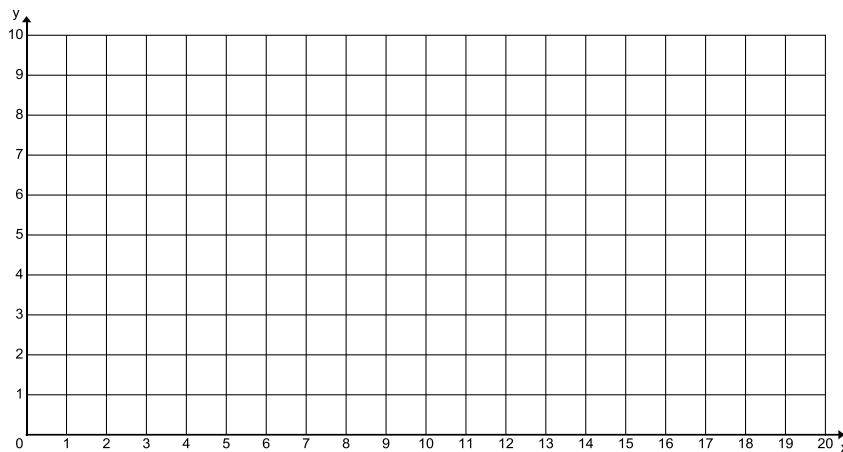
Give two possible combinations of CDs and t-shirts Anna could buy for her friends.

10. Three pizzas and 4 sandwiches cost $34. Three pizzas and 7 sandwiches cost $41.50. Let x be the cost of the pizza and y be the cost of the sandwich. Write and solve a system of equations to find the cost of one pizza and one sandwich.