Simultaneous Equations

1. Solve the following systems of equations

a. $x + y = 5$
$\quad x - y = 1$

b. $x + y = 11$
$\quad x - y = 3$

c. $x + 2y = 11$
$\quad x - 2y = -5$

d. $x + 3y = 4$
$\quad x - 3y = 10$

. $x - y = 8$
$\quad x + y = 14$

f. $x - y = 12$
$\quad x + y = 6$

g. $x - 3y = 21$
$\quad x + 3y = -9$

h. $x + 4y = 7$
$\quad x - 4y = -9$

2. Solve the following systems of equations:

a. $3x + 4y = 20$
$\quad 2x - 6y = -4$

b. $4x + 3y = 2$
$\quad 3x - 5y = 16$

c. $3x + 2y = 15$
$\quad x - 5y = -29$

d. $3x + 2y = 8$
$\quad 4x - 3y = 22$

e. $4x - 3y = -6$
$\quad 3x + 5y = -19$

f. $3x - 3y = 0$
$\quad 5x + y = 12$

g. $5x - 3y = -1$
$\quad 2x + 2y = -10$

h. $6x + 5y = 27$
$\quad 3x - 3y = -3$

3. Solve the following systems of equations:

a. $2x + 5y = 11$
$\quad 3x + 6y = 15$

b. $3x + 2y = 4$
$\quad 5x + 4y = 10$

c. $4x - 6y = 2$
$\quad 3x - y = 5$

d. $7x - 4y = 25$
$\quad 4x - y = 13$

e. $6x - 3y = 18$
$\quad 3x - 4y = 14$

f. $5x + 3y = -22$
$\quad 2x + 5y = -24$

g. $2x + 5y = 5$
$\quad 5x + 3y = -16$

h. $4x - 3y = 23$
$\quad 5x - 2y = 20$

4. Scott took his family to the cinema. He buys two adult tickets and three child tickets. His total was £55.

Lauren also took her children to the cinema. She bought 1 adult ticket and 4 child tickets. Her total was £50.

How much will it cost for 1 adult tickets and 1 child ticket?

5. 5 burgers and 3 hotdogs come to a total of £31.75.

2 burgers and 4 hot dogs come to a total of £22.50.

How much will it costs for 1 burger and 1 hot dog?

6. Two bananas and three pears have a combined weight of $770g$.

Four banans and five pears have a combined weight of $1362g$.

Find the combined weight of three bananas and four pears?

7. Find the point of intersection between the lines.

a. $y = 3x + 7$ and $y = -2x + 2$

b. $y = 3x - 4$ and $y = 12 - 5x$

c. $5x + 3y = 7$ and $3x - 7y = 13$

d. $6y - 2x = 0$ and $3x + 5y = 14$