Chapter9 SIMULTANEOUS EQUATIONS Name……

1) Explain the meaning of *simultaneous* ……

2) Solve each of the pairs of simultaneous equations by **elimination**

a) $3x + y = 4$
$2x - y = 6$

x = ... y = ...

b) $3x + 2y = 17$
$3y - 3x = 3$

x = ... y = ...

c) $2x + 2y = 12$
$2x - 4y = 6$

x = ... y = ...

d) $5x + 2y = 3$
$2x - y = 3$

x = ... y = ...

e) $2x - 3y = 5$
$7x - y = -11$

x = ... y = ...

f) $3x + 4y = -7$
$2x + 6y = -3$

x = ... y = ...

3) Solve each pair of simultaneous equations by **substitution**

a) $y = 2x + 3$
$y = 3x - 1$

x = ... y = ...

b) $y + 2x = 4$
$y = 5x - 10$

x = ... y = ...

c) $2x - y = 4$
$y = 5 - x$

x = ... y = ...

d) $2x + 2y = 2$
$y + 3x = 11$

x = ... y = ...

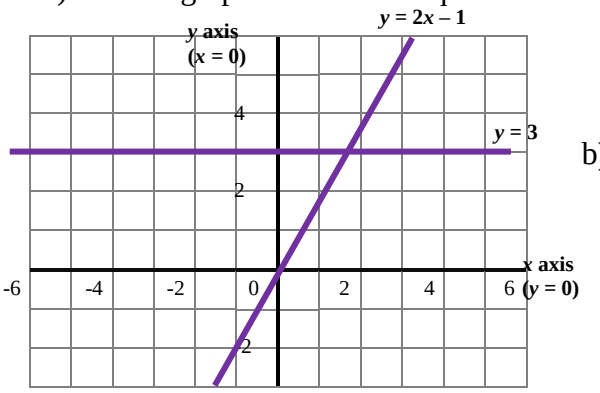
e) $3y - 2x = 19$
$x + y = 3$

x = ... y = ...

f) $2y - 3x = 5$
$4y + 6x = 14$

x = ... y = ...

3 a) Use the graph to solve the equation **$2x - 1 = 3$**

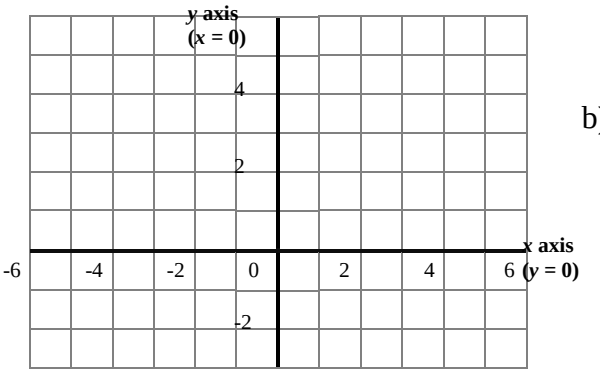


x = ……

b) Solve the equation, **$2x - 1 = 3$** using the maths table;

x = ……

b) Solve the simultaneous equations **$y = \frac{1}{2}x + 1$** and **$y = x - 1$** by plotting the lines on the axes.



x = …… y = ……

b) Solve the simultaneous equations: **$y = \frac{1}{2}x + 1$** and **$y = x - 1$** by substitution

x = …… y = ……

Applied Questions

1) Jack is x years old. Jill is y years old. The sum of their ages is 60 years. Jack is 6 years older than Jill. Write down a pair of simultaneous equations and solve them to find x and y

2) Funfair tickets for 2 adults and 3 children cost £54. Tickets for 2 adults and 5 children cost £70. Find the cost of an adult ticket

3) The ages of Jasmin and Sara are in the ratio 2 : 3. In 4 years time, their ages will be in the ratio 3 : 4 How old are Jasmin and Sara now?