**Non-Linear Simultaneous Equations GREEN**

Solve **y = x² - 5**

 **y = x + 6**

 ………………………………………………

 **(6 marks)**

Solve **x² + y² = 34**

 **y = x + 2**

 ………………………………………………

 **(6 marks)**

Solve **9x² + y² = 18**

 **x = y – 4**

 ………………………………………………

 **(7 marks)**

Solve **y = 3x² - 8x + 6**

 **x + y = 2**

 ………………………………………………

 **(7 marks)**

**Non-Linear Simultaneous Equations AMBER**

Solve **y = x² - 5**

 **y = x + 6**

 If y equals x² - 5 AND x + 6, then we can write

x² - 5 = x + 6

 Rearrange so it equals zero. Then solve.

Remember to substitute in your values so you have two values for x AND y.

 (………,………) and (………,………)

 **(6 marks)**

Solve **x² + y² = 34**

 **y = x + 2**

 Substitute y = x + 2 into the first equation.

 Rearrange so it equals zero. Then solve.

Remember to substitute in your values so you have two values for x AND y.

(………,………) and (………,………)

 **(6 marks)**

Solve **9x² + y² = 18**

 **x = y – 4**

 Substitute x = y - 4 into the first equation.

 Rearrange so it equals zero. Then solve.

Remember to substitute in your values so you have two values for x AND y.

 (………,………) and (………,………)

 **(7 marks)**

Solve **y = 3x² - 8x + 6**

 **x + y = 2**

Rearrange the second equation to make or y the subject, then substitute into the first equation.

 Rearrange so it equals zero. Then solve.

Remember to substitute in your values so you have two values for x AND y.

 (………,………) and (………,………)

 **(7 marks)**

**Non-Linear Simultaneous Equations RED**

Solve **y = x² - 5**

 **y = x + 6**

 If y equals x² - 5 AND x + 6, then we can write

x² - 5 = x + 6

 Rearrange so it equals zero. Then solve.

To solve:

Factorise (if you can) or use the quadratic formula.

For

ax² + bx + c = 0

x = -b ± √(b² - 4ac)

 2a

 x² - 5 = x + 6

 -x -6 -x -6

 x² - x - 11 = 0

Remember to substitute in your values so you have two values for x AND y.

 (………,………) and (………,………)

 **(6 marks)**

Solve **x² + y² = 34**

 **y = x + 2**

 Substitute y = x + 2 into the first equation.

 Rearrange so it equals zero. Then solve.

To solve:

Factorise (if you can) or use the quadratic formula.

For

ax² + bx + c = 0

x = -b ± √(b² - 4ac)

 2a

Remember to substitute in your values so you have two values for x AND y.

 (………,………) and (………,………)

 **(6 marks)**

Solve **9x² + y² = 18**

 **x = y – 4**

 Substitute x = y - 4 into the first equation.

 Rearrange so it equals zero. Then solve.

To solve:

Factorise (if you can) or use the quadratic formula.

For

ax² + bx + c = 0

x = -b ± √(b² - 4ac)

 2a

Remember to substitute in your values so you have two values for x AND y.

 (………,………) and (………,………)

 **(7 marks)**

Solve **y = 3x² - 8x + 6**

 **x + y = 2**

Rearrange the second equation to make y the subject, then substitute into the first equation.

 Rearrange so it equals zero. Then solve.

To solve:

Factorise (if you can) or use the quadratic formula.

For

ax² + bx + c = 0

x = -b ± √(b² - 4ac)

 2a

Remember to substitute in your values so you have two values for x AND y.

 (………,………) and (………,………)

 **(7 marks)**