

# SIMULTANEOUS EQUATIONS EXAM WORKSHEET

Solve the following pairs of simultaneous equations

$$1. \begin{aligned}x + y &= 5 \\xy &= 6\end{aligned}$$

$$2. \begin{aligned}x + 1 &= 2y \\x^2 + 3y &= 4\end{aligned}$$

$$3. \begin{aligned}3x + y &= 14 \\2x^2 - xy &= 3\end{aligned}$$

$$4. \begin{aligned}x^2 &= 4 - y \\x &= y + 2\end{aligned}$$

$$5. \begin{aligned}3p + 2r &= 7 \\p^2 - 2r &= 11\end{aligned}$$

$$6. \begin{aligned}x^2 + 9y^2 &= 37 \\x - 2y &= -3\end{aligned}$$

$$7. \begin{aligned}2x^2 + y^2 &= 33 \\x + y &= 3\end{aligned}$$

$$8. \begin{aligned}x^2 - xy + y^2 &= 7 \\2x - y &= 5\end{aligned}$$

$$9. \begin{aligned}\frac{x}{y} + \frac{6y}{x} &= 5 \\2y &= x - 2\end{aligned}$$

$$10. \begin{aligned}\frac{x^2}{6} + \frac{y}{4} &= 1 \\x - y &= 5\end{aligned}$$

ANSWERS

1.  $(2, 3); (3, 2)$

2.  $\left(-\frac{5}{2}, -\frac{3}{4}\right); (1, 1)$

3.  $\left(-\frac{1}{5}, \frac{73}{5}\right); (3, 5)$

4.  $(-3, -5); (2, 0)$   
 $p = 3, r = -1$

5.  $p = -6, r = \frac{25}{2}$

6.  $\left(-\frac{67}{13}, -\frac{14}{13}\right); (1, 2)$

7.  $(-2, 5); (4, -1)$

8.  $(2, -1); (3, 1)$

9.  $(6, 2)$

10.  $\left(-\frac{9}{2}, -\frac{19}{2}\right); (3, -2)$