SIMULTANEOUS EQUATIONS EXAM WORKSHEET

Solve the following pairs of simultaneous equations

1. $x + y = 5$
   $xy = 6$

2. $x + 1 = 2y$
   $x^2 + 3y = 4$

3. $3x + y = 14$
   $2x^2 - xy = 3$

4. $x^2 = 4 - y$
   $x = y + 2$

5. $3p + 2r = 7$
   $p^2 - 2r = 11$

6. $x^2 + 9y^2 = 37$
   $x - 2y = -3$

7. $2x^2 + y^2 = 33$
   $x + y = 3$

8. $x^2 - xy + y^2 = 7$
   $2x - y = 5$

9. $\frac{x}{y} + \frac{6y}{x} = 5$
   $2y = x - 2$

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

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)
5. $p = 3, r = -1$
   $p = -6, r = \frac{25}{2}$
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. $\left(-\frac{9}{2}, -\frac{19}{2}\right)$; $(3, -2)$