

Non-Linear Simultaneous Equations

(a) Solve algebraically $xy = 4$
 $y = x + 3$

(b) Solve algebraically $xy = -8$
 $x + y = 2$

(c) Solve algebraically $xy + 12 = 0$
 $x = 2 - 2y$

(a) $x = -4, y = -1$
 $x = 1, y = 4$

(b) $x = 4, y = -2$
 $x = -2, y = 4$

(c) $x = -4, y = 3$
 $x = 6, y = -2$

(a) Solve algebraically $y = \frac{3}{x}$
 $2x = y - 1$

(b) Solve algebraically $y = \frac{4}{x} - 2$
 $x = 4y + 8$

(c) Solve algebraically $y = \frac{4}{x} + x$
 $x + y = 6$

(a) $x = -\frac{3}{2}, y = -2$
 $x = 1, y = 3$

(b) $x = -4, y = -3$
 $x = 4, y = -1$

(c) $x = 1, y = 5$
 $x = 2, y = 4$

(a) Solve algebraically $x^2 + xy = 20$
 $x = 4y$

(b) Solve $x^2 + y^2 - xy = 16$
 $x + y = 4$

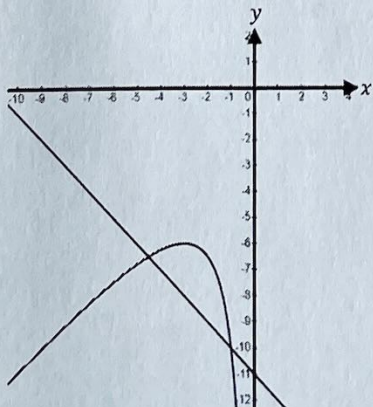
(c) Solve $x^2 - y^2 = 4 + xy$
 $y = 2x - 6$

(a) $x = 4, y = 1$
 $x = -4, y = -1$

(b) $x = 0, y = 4$
 $x = 4, y = 0$

(c) $x = 2, y = -2$
 $x = 4, y = 2$

The diagram shows the graphs of $y = x + \frac{9}{x}$ and $x + y + 11 = 0$. Find the coordinates of the points of intersection.



$(-\frac{9}{2}, -\frac{13}{2})$

$(-1, -10)$