**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) 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) Solve algebraically $x^{2}+xy=20$

 $x=4y$

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

 $x+y=4$

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

 $y=2x-6$

The diagram shows the graphs of

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



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