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| **Harder Coordinate Geometry** |
| **(a)** | **(b)** | **(c)** |
| Find an equation of the line that passes through the points $\left(4, 2\right)$ and $\left(-8, 11\right). $Give your answer in the form $ax+by=c$ where $a$, $b$ and $c$ are integers. | The straight line $L$has equation$5x-3y=18$. Find an equation of the line that is parallel to $L$and crosses the $x$-axis at $(4, 0)$. | The straight line $L\_{1}$ has equation $x+2y-7=0$. The straight line $L\_{2}$ passes through the points $\left(-2,-6\right)$ and $\left(5, 8\right)$. Show that the lines $L\_{1}$ and $L\_{2}$ are perpendicular to each other. |
| **(d)** | **(e)** | **(f)** |
| The straight line$ L$ passes through the points $\left(1, -1\right)$ and $\left(5, 9\right)$. Find an equation of the line that is parallel to$ L$ and passes through the point $\left(2, 4\right)$. Give your answer in the form $ax+by+c=0$ where $a$, $b$ and $c$ are integers. | The straight line $L\_{1}$ has equation $2x-3y=4. $The straight line $L\_{2}$ is perpendicular to $L\_{1}$ and passes through the point $\left(1, 2\right). $Find the equation of the line $L\_{2}$ and the coordinates of the point where it crosses the $x$-axis. | $ABC$ is a triangle, where $\hat{BAC}=90°$. The point $C$ has coordinates $(9, 5)$ and points $A$ and $B$ lie on the line with equation $2x+3y=7$. Find the equation of the line that passes through $A$ and $C$, giving your answer in the form $ax+by=c $where $a$, $b$ and $c$ are integers. |