Annie is plotting the graph of the line $y=3 x+1$ Here is her coordinate table and graph.

| $\boldsymbol{x}$ | -2 | -1 | 0 | 1 | 2 |
| :--- | :--- | :--- | :--- | :--- | :--- |
| $\boldsymbol{y}$ | -7 | -4 | 1 | 4 | 7 |

b) Complete the coordinate table correctly.

| $\boldsymbol{x}$ | -2 | -1 | 0 | 1 | 2 |
| :--- | :--- | :--- | :--- | :--- | :--- |
| $\boldsymbol{y}$ |  |  |  |  |  |

c) Correctly draw the line $y=3 x+1$


Here are three tables of values for the lines $P, Q$ and $R$.
a) Complete the tables.

P $y=3 x+4$

| $x$ | -2 | -1 | 0 | 1 | 2 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $y$ |  |  |  |  |  |

Q $y=-x+2$

| $x$ | -2 | -1 | 0 | 1 | 2 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $y$ |  |  |  |  |  |

R $y=0.5 x-3$

| $\boldsymbol{x}$ | -2 | -1 | 0 | 1 | 2 |
| :--- | :--- | :--- | :--- | :--- | :--- |
| $\boldsymbol{y}$ |  |  |  |  |  |

b) Plot and label lines P, Q and R.
a) Complete the table of values for the four lines: J, K, L and M.

J $y=5 x+2$
K $2+3 x=y$

| $x$ | -2 | -1 | 0 | 1 | 2 |
| :--- | :--- | :--- | :--- | :--- | :--- |
| $y$ |  |  |  |  |  |


| $x$ | -2 | -1 | 0 | 1 | 2 |
| :--- | :--- | :--- | :--- | :--- | :--- |
| $y$ |  |  |  |  |  |

L $y=2-x$

| $x$ | -2 | -1 | 0 | 1 | 2 |
| :--- | :--- | :--- | :--- | :--- | :--- |
| $y$ |  |  |  |  |  |

M $y=-4 x+2$

| $x$ | -2 | -1 | 0 | 1 | 2 |
| :--- | :--- | :--- | :--- | :--- | :--- |
| $y$ |  |  |  |  |  |

b) Plot and label the lines.

c) Look at the sequence formed by the $y$-values for each line. What do you notice?
d) All the lines have exactly one point in common. What are the coordinates of this point? $\square$
 Why does this happen?

