Can you fill in the first initial of each student in this math teacher's seating chart using only the clues below?


## CLUES:

1. All students are located at integral coordinates in the $x y$-plane. The x-coordinates belong to the set $\{-2,-1,0,1,2\}$, and the $y$-coordinates belong to the set $\{-1,0,1,2,3\}$.
2. Abel is seated on the line whose slope is -2 and passes through the point $(-1,1)$.
3. Brahmagupta is seated on the line passing through (4, 2) and (-5, -1).
4. Point M is the midpoint of segment XY . Point M has coordinates (4, -4 ) and point X has coordinates $(8,-7)$. Cantor is seated at point $Y$.
5. Descartes is seated on the line $3 y-2 x=4$.
6. Euclid sits on the line that passes through $(-4,1)$ and is parallel to the line $x+2 y=10$.
7. Fermat is seated on the line with slope zero and y-intercept one.
8. Gauss is seated on the line whose $x$-intercept is $(3,0)$ and $y$-intercept is $\left(0, \frac{3}{2}\right)$.
9. Hardy sits at the intersection of $x+4 y=4$ and $2 x-3 y=-3$.
10. Jacobi is located at the midpoint of the segment joining (3, -6 ) and ( $-5,8$ ).
11. Klein sits on the line that passes through $(-6,-4)$ and is perpendicular to $y=\frac{-4}{3} x+7$.
12. Laplace sits on the line $\frac{x}{2}-\frac{y}{2}=1$.
13. Mandelbrot is seated at a distance of five units from Euclid.
14. Newton sits on the line $x=2$.
15. Pythagoras is located at the $x$-intercept of the line $y=x-2$.
16. Riemann sits on the line that passes through $(12,7)$ and is parallel to $y=\frac{1}{2} x-\frac{4}{3}$.
17. Saccheri sits on the line passing through the point $(98,9)$ and having slope $m=\frac{2}{25}$.
18. Taylor sits on the line where each abscissa is five times the corresponding ordinate.
19. Venn sits on the line with slope zero and y-intercept zero.
20. Weil sits on the line that passes through $(11,10)$ and is perpendicular to the line $y=-x+1$.
21. Zeno sits at a point that is equidistant from Jacobi and Laplace.

## CLUE Worksheet

For each problem, write down all possible answers from the given domain and range.

| CLUE | NAME | Possible Ordered Pairs |
| :---: | :--- | :--- |
| 1 |  |  |
| 2 | Abel |  |
| 3 | Brahmagupta |  |
| 4 | Cantor |  |
| 5 | Descartes |  |
| 6 | Euclid |  |
| 7 | Fermat |  |
| 8 | Gauss |  |
| 9 | Hardy |  |
| 10 | Jacobi |  |
| 11 | Klein |  |
| 12 | Laplace |  |
| 13 | Mandelbrot |  |
| 14 | Newton |  |
| 15 | Pythagoras |  |
| 16 | Riemann |  |
| 17 | Saccheri |  |
| 18 | Taylor |  |
| 19 | Venn |  |
| 20 | Weil |  |
| 21 | Zeno |  |

