

## Invariant Lines

For each transformation matrix, find the equations of any invariant lines.

|  |   |   |  |
|--|---|---|--|
| (a)  | (b)   | (c)   | (d)  |
| $\begin{pmatrix} -1 & 1 \\ 10 & 2 \end{pmatrix}$ | $\begin{pmatrix} 0 & 1 \\ -3 & 4 \end{pmatrix}$ | $\begin{pmatrix} -4 & 0 \\ 0 & 1 \end{pmatrix}$ | $\begin{pmatrix} 5 & 2 \\ 4 & 3 \end{pmatrix}$ |
| (e)  | (f)   | (g)   | (h)  |
| $\begin{pmatrix} 2 & 3 \\ 4 & -9 \end{pmatrix}$  | $\begin{pmatrix} 7 & 1 \\ -5 & 6 \end{pmatrix}$ | $\begin{pmatrix} 2 & 1 \\ 0 & 3 \end{pmatrix}$  | $\begin{pmatrix} 7 & 9 \\ 4 & 7 \end{pmatrix}$ |