a) $r_1 > 0$, $r_2 > 0$
source

b) $r_1 > 0$, $r_2 < 0$
saddle

c) $r_1 < 0$, $r_2 < 0$
sink

d) $r = \pm i\mu$
center

e) $r = \lambda \pm i\mu$ with $\lambda > 0$
spiral source

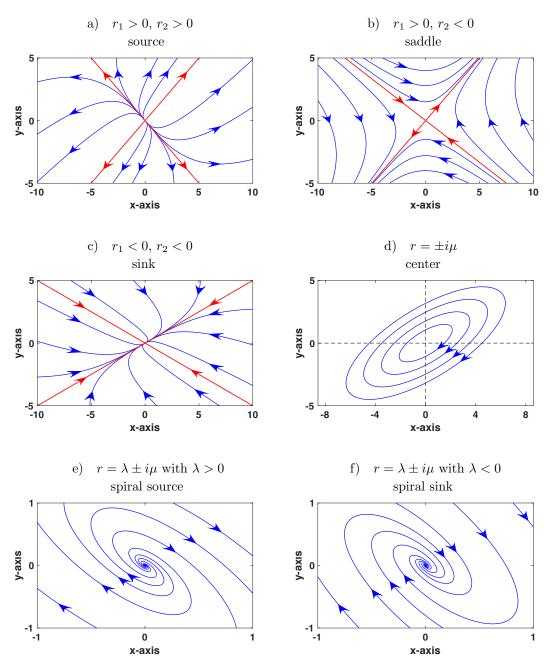f) $r = \lambda \pm i\mu$ with $\lambda < 0$
spiral sink

Table 4.1. *Examples of integral curves and how they depend on the eigenvalues of* **A**. *Each curve corresponds to a specific choice for the constants appearing in the general solution. The arrows indicate the direction for increasing t. It is assumed here that $\mu \neq 0$.*