

The water temperature will remain constant at $T=12.5$

The Jacobian for the critical point $(0,0)$ is:

$J_1 =$

$$\begin{bmatrix} 1277/2717 & 0 \\ 0 & -43/2667 \end{bmatrix}$$

The eigenvalues of the Jacobian above are:

$-43/2667$
 $1277/2717$

The Jacobian for the critical point $(0,6)$ is:

$J_2 =$

$$\begin{bmatrix} 624/2713 & 0 \\ 3/6250 & 43/2667 \end{bmatrix}$$

The eigenvalues of the Jacobian above are:

$43/2667$
 $624/2713$

The Jacobian for the critical point $(15,0)$ is:

$J_3 =$

$$\begin{bmatrix} -1277/2717 & -3/5 \\ 0 & -94/6299 \end{bmatrix}$$

The eigenvalues of the Jacobian above are:

$-1277/2717$
 $-94/6299$

The Jacobian for the critical point $(7.630484, 5.772832)$ is:

$J_4 =$

$$\begin{bmatrix} -389/1627 & -807/2644 \\ 19/41141 & 97/6253 \end{bmatrix}$$

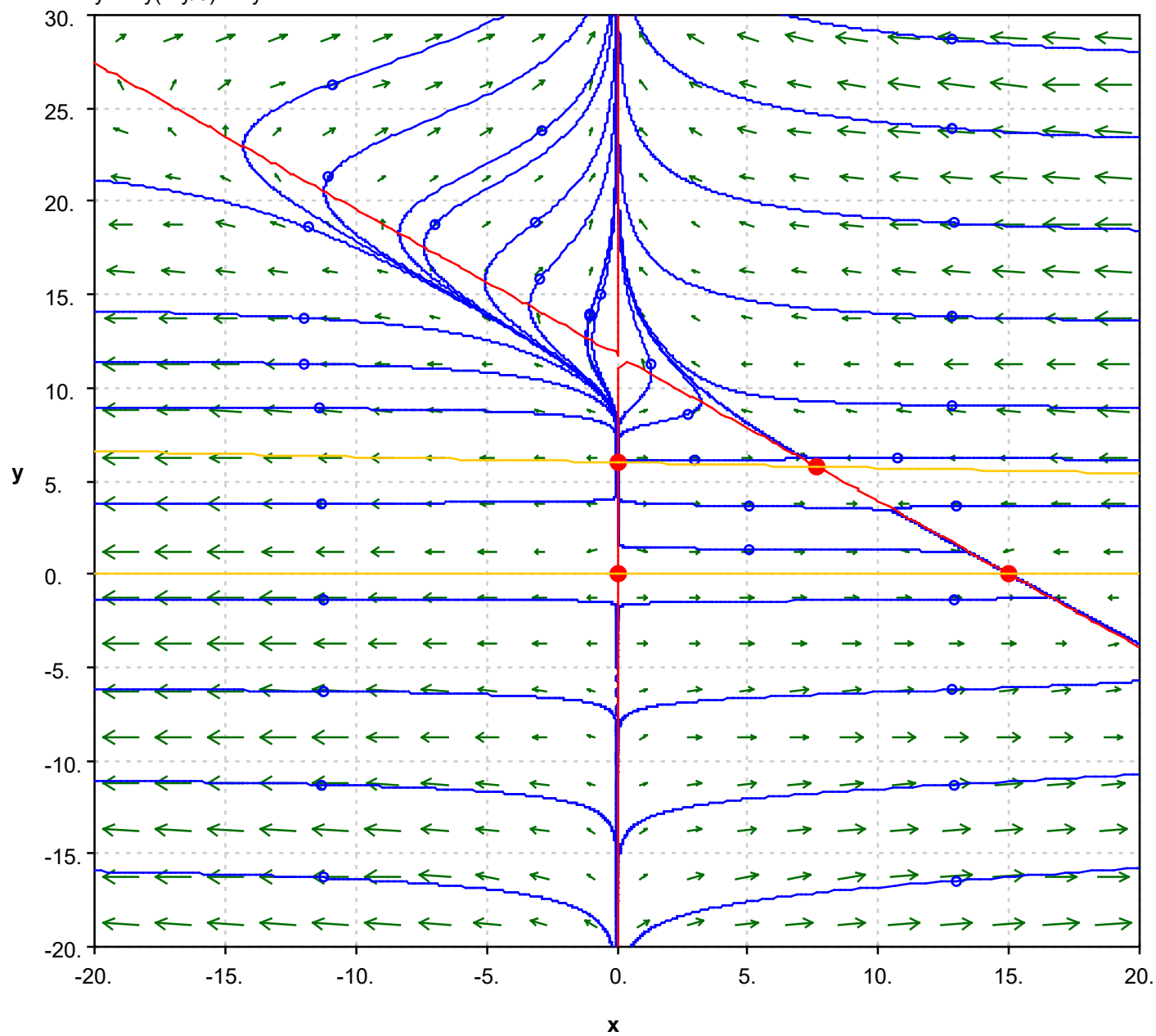
The eigenvalues of the Jacobian above are:

$-645/2704$
 $214/14307$

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$$x' = Rx(1-x/15)-cxy$$

$$y' = ry(1-y/6)+dxy$$



The water temperature will remain constant at $T=22.2$

The Jacobian for the critical point (0,0) is:

J_1 =

$-1205/7344$	0
0	$-43/2667$

The eigenvalues of the Jacobian above are:

$-1205/7344$
 $-43/2667$

The Jacobian for the critical point (0,6) is:

J_2 =

$-733/1814$	0
$3/6250$	$43/2667$

The eigenvalues of the Jacobian above are:

$43/2667$
 $-733/1814$

The Jacobian for the critical point (15,0) is:

J_3 =

$1205/7344$	$-3/5$
0	$-94/6299$

The eigenvalues of the Jacobian above are:

$1205/7344$
 $-94/6299$

The Jacobian for the critical point (33.313837,5.008209) is:

J_4 =

$2791/7659$	$-569/427$
$10/24959$	$85/6316$

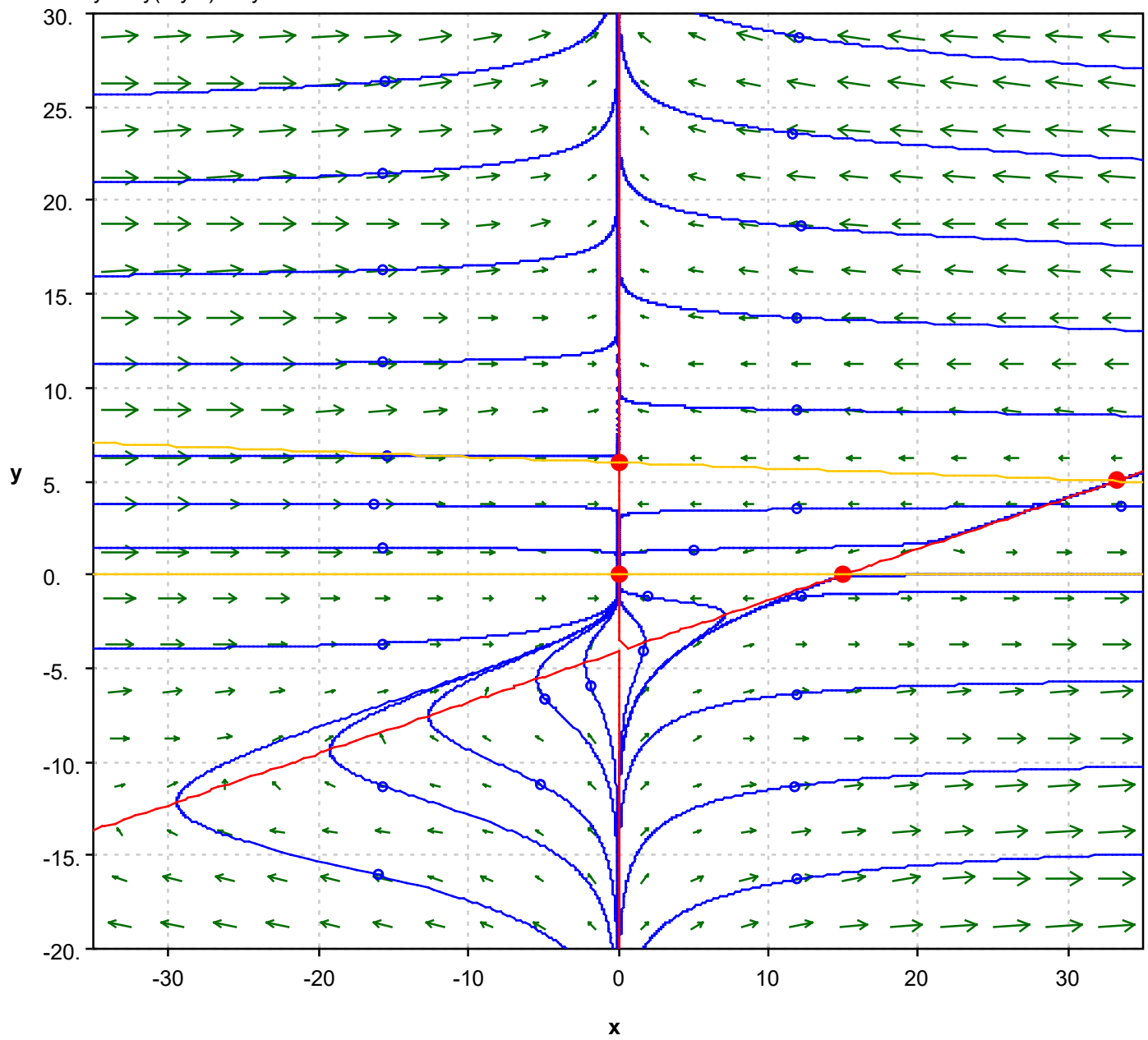
The eigenvalues of the Jacobian above are:

$1003/2764$
 $37/2469$

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$$x' = Rx(1-x/15)-cxy$$

$$y' = ry(1-y/6)+dxy$$



The water temperature will remain constant at $T=30.0$

The Jacobian for the critical point $(0,0)$ is:

$J_1 =$

$$\begin{bmatrix} -1967/1052 & 0 \\ 0 & -43/2667 \end{bmatrix}$$

The eigenvalues of the Jacobian above are:

$-1967/1052$
 $-43/2667$

The Jacobian for the critical point $(0,6)$ is:

$J_2 =$

$$\begin{bmatrix} -1576/747 & 0 \\ 3/6250 & 43/2667 \end{bmatrix}$$

The eigenvalues of the Jacobian above are:

$43/2667$
 $-1576/747$

The Jacobian for the critical point $(15,0)$ is:

$J_3 =$

$$\begin{bmatrix} 1967/1052 & -3/5 \\ 0 & -94/6299 \end{bmatrix}$$

The eigenvalues of the Jacobian above are:

$1967/1052$
 $-94/6299$

The Jacobian for the critical point $(16.765204, 5.500881)$ is:

$J_4 =$

$$\begin{bmatrix} 861/412 & -397/592 \\ 11/24996 & 63/4262 \end{bmatrix}$$

The eigenvalues of the Jacobian above are:

$1375/658$
 $164/10989$

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$$x' = Rx(1-x/15)-cxy$$

$$y' = ry(1-y/6)+dxy$$

