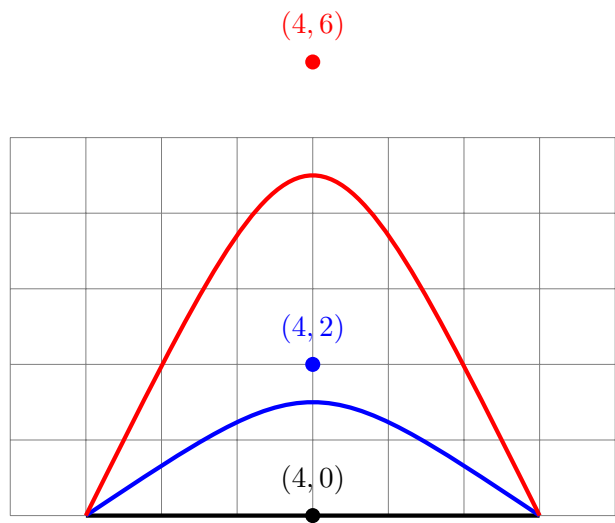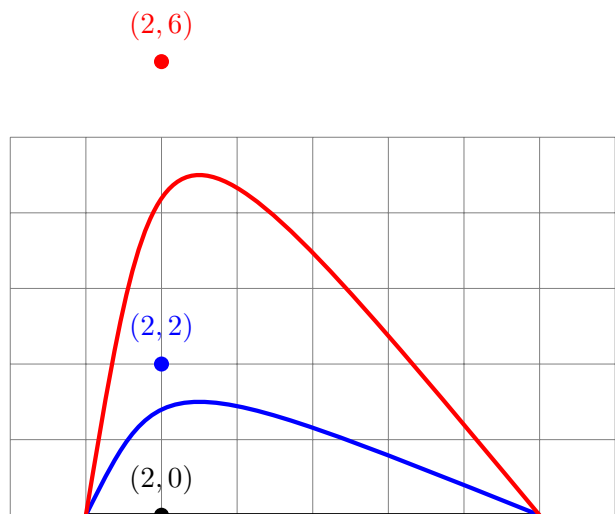One control point:

```
\begin{tikzpicture}[baseline]
\draw[help lines] (0,0) grid (8,5);
\draw[ultra thick]
  (1,0)
    .. controls (4,0) ..
  (7,0) \DrawControl{(4,0)}{black}{};
\draw[ultra thick,blue]
  (1,0)
    .. controls (4,2) ..
  (7,0) \DrawControl{(4,2)}{blue}{};
\draw[ultra thick,red]
  (1,0)
    .. controls (4,6) ..
  (7,0) \DrawControl{(4,6)}{red}{};
\end{tikzpicture}\hfill
```
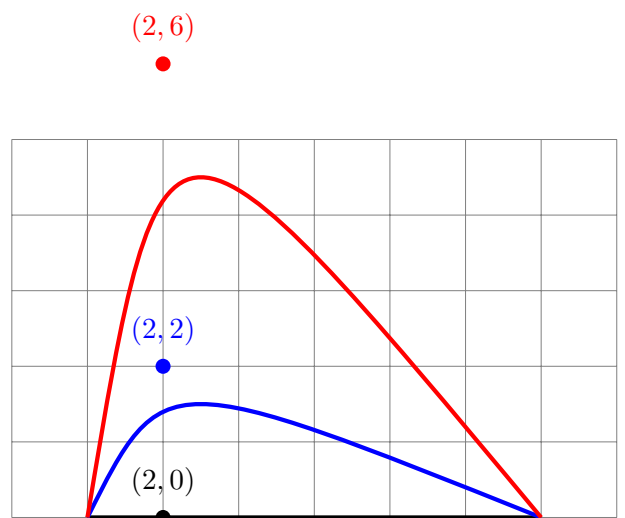


```
\begin{tikzpicture}[baseline]
\draw[help lines] (0,0) grid (8,5);
\draw[ultra thick]
  (1,0)
    .. controls (2,0) ..
  (7,0) \DrawControl{(2,0)}{black}{};
\draw[ultra thick,blue]
  (1,0)
    .. controls (2,2) ..
  (7,0) \DrawControl{(2,2)}{blue}{};
\draw[ultra thick,red]
  (1,0)
    .. controls (2,6) ..
  (7,0) \DrawControl{(2,6)}{red}{};
\end{tikzpicture}
```



```
\begin{tikzpicture}[baseline]
\draw[help lines] (0,0) grid (8,5);
\draw[ultra thick]
  (1,0)
    .. controls (2,0) ..
  (7,0) \DrawControl{(2,0)}{black}{};
\draw[ultra thick,blue]
  (1,0)
    .. controls (2,2) ..
  (7,0) \DrawControl{(2,2)}{blue}{};
\draw[ultra thick,red]
  (1,0)
    .. controls (2,6) ..
  (7,0) \DrawControl{(2,6)}{red}{};
\end{tikzpicture}
```
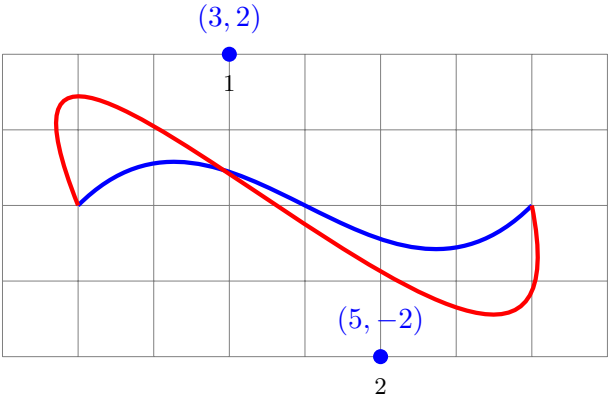

Two control points:

```
\begin{tikzpicture}[baseline]
\draw[help lines] (0,-2) grid (8,2);
\draw[ultra thick,blue]
  (1,0)
    .. controls (3,2) and (5,-2) ..
  (7,0) \DrawControl{(3,2)}{blue}{1}\DrawControl{(5,-2)}{blue}{2};
\draw[ultra thick,red]
  (1,0)
    .. controls (-1,5) and (8,-5) ..
  (7,0) \DrawControl{(-1,5)}{red}{1}\DrawControl{(8,-5)}{red}{2};
\end{tikzpicture}

\rule{\textwidth}{2pt}
```
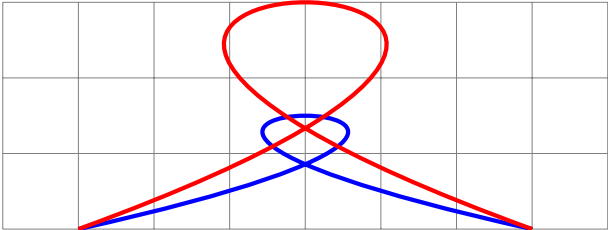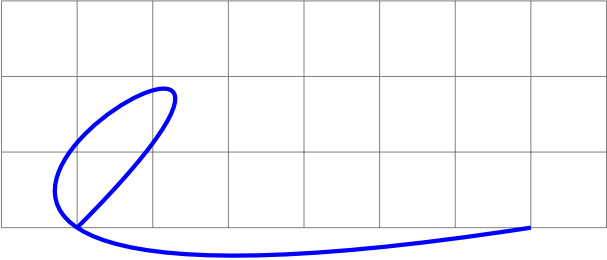
$(-1,5)$
1

$(3,2)$
1

$(5,-2)$
2

$(8,-5)$
2

```
\begin{tikzpicture}[baseline]
\draw[help lines] (0,0) grid (8,3);
\draw[ultra thick,blue]
  (1,0)
    .. controls (3,2) and (5,2) ..
  (7,0) \DrawControl{(3,2)}{blue}{1}\DrawControl{(5,2)}{blue}{2} ;
\draw[ultra thick,red]
  (1,0)
    .. controls (3,4) and (5,4) ..
  (7,0) \DrawControl{(3,4)}{red}{1}\DrawControl{(5,4)}{red}{2};
\end{tikzpicture}\hfill
\begin{tikzpicture}[baseline]
\draw[help lines] (0,0) grid (8,3);
\draw[ultra thick,blue]
  (1,0)
    .. controls (2,2) and (6,2) ..
  (7,0) \DrawControl{(2,2)}{blue}{1}\DrawControl{(6,2)}{blue}{2};
\draw[ultra thick,red]
  (1,0)
    .. controls (2,4) and (6,4) ..
  (7,0) \DrawControl{(2,4)}{red}{1}\DrawControl{(6,4)}{red}{2};
\end{tikzpicture}
```

$(12,4)$
1

$(-2,2)$
2

$(10,2)$
1

$(6,5)$
2

$(-6,-2)$
1