1 圆弧

1.1 \tkzDrawArc命令：绘制圆弧

\tkzDrawArc[⟨ 命令选项⟩](⟨O,…⟩)(⟨…⟩)

该命令绘制圆心在 O 点的圆弧，根据选项不同，其参数不同。

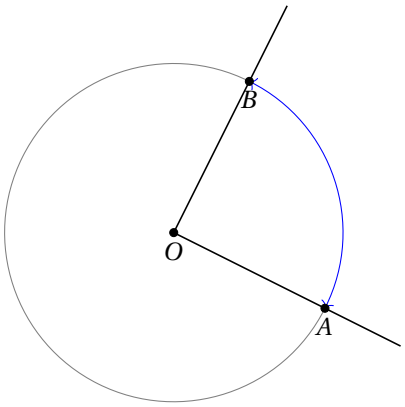
选项	默认值	含义
towards	towards	O 是圆心，并且圆弧从 A 到 (OB)
rotate	towards	圆弧从 A 开始并且角度确定了长度
R	towards	给定半径和两个角度
R with nodes	towards	给定半径和两个点
angles	towards	给定半径和两个点
delta	0	角度加上两个边

可以使用所有有效的 TikZ 样式。

选项	参数	样例
towards	(⟨pt,pt⟩)(⟨pt⟩)	\tkzDrawArc[delta=10](O,A)(B)
rotate	(⟨pt,pt⟩)(⟨an⟩)	\tkzDrawArc[rotate,color=red](O,A)(90)
R	(⟨pt,*r*⟩)(⟨an,an⟩)	\tkzDrawArc[R](O,2 cm)(30,90)
R with nodes	(⟨pt,*r*⟩)(⟨pt,pt⟩)	\tkzDrawArc[R with nodes](O,2 cm)(A,B)
angles	(⟨pt,pt⟩)(⟨an,an⟩)	\tkzDrawArc[angles](O,A)(0,90)

1.2 towards选项示例 1

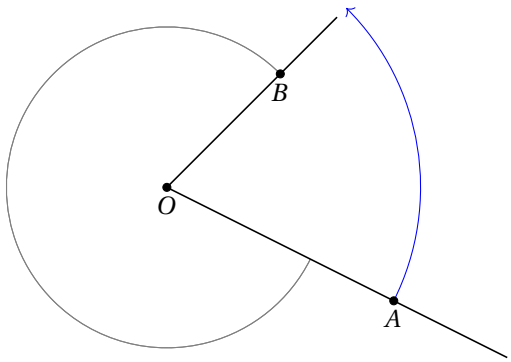
towards是默认选项，第 1 个例子里的圆弧从 A 开始到 B 结束。当然，从 B 到 A 会得到不同的结果。圆弧凸向由逆时针方向确定。




```
\begin{tikzpicture}
  \tkzDefPoint(0,0){O}
  \tkzDefPoint(2,-1){A}
  \tkzDefPointBy[rotation= center O angle 90](A)
  \tkzGetPoint{B}
  \tkzDrawArc[color=blue,<->](O,A)(B)
  \tkzDrawArc(O,B)(A)
  \tkzDrawLines[add = 0 and .5](O,A O,B)
  \tkzDrawPoints(O,A,B)
  \tkzLabelPoints[below](O,A,B)
\end{tikzpicture}
```

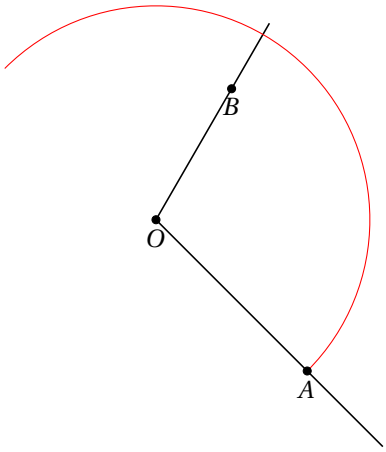
1.3 towards选项示例 2

该例中，圆弧从A开始，直到(OB)结束。



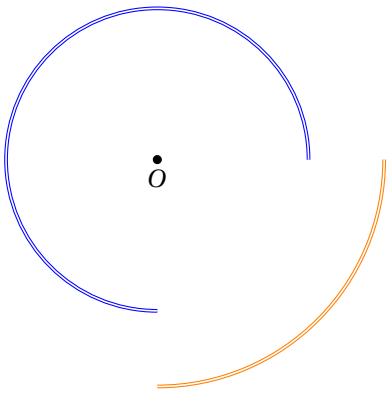

```
\begin{tikzpicture}[scale=1.5]
  \tkzDefPoint(0,0){O}
  \tkzDefPoint(2,-1){A}
  \tkzDefPoint(1,1){B}
  \tkzDrawArc[color=blue,->](O,A)(B)
  \tkzDrawArc[color=gray](O,B)(A)
  \tkzDrawArc(O,B)(A)
  \tkzDrawLines[add = 0 and .5](O,A O,B)
  \tkzDrawPoints(O,A,B)
  \tkzLabelPoints[below](O,A,B)
\end{tikzpicture}
```

1.4 rotate选项示例



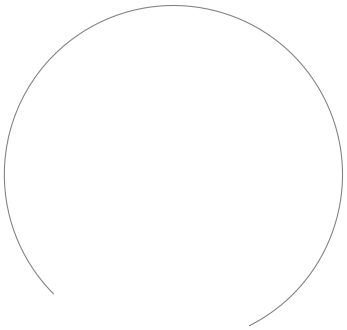

```
\begin{tikzpicture}
  \tkzDefPoint(0,0){O}
  \tkzDefPoint(2,-2){A}
  \tkzDefPoint(60:2){B}
  \tkzDrawLines[add = 0 and .5](O,A O,B)
  \tkzDrawArc[rotate,color=red](O,A)(180)
  \tkzDrawPoints(O,A,B)
  \tkzLabelPoints[below](O,A,B)
\end{tikzpicture}
```

1.5 R选项示例




```
\begin{tikzpicture}
  \tkzDefPoints{0/0/O}
  \tikzset{compass style/.append style={<->}}
  \tkzDrawArc[R,color=orange,double](O,3cm)(270,360)
  \tkzDrawArc[R,color=blue,double](O,2cm)(0,270)
  \tkzDrawPoint(O)
  \tkzLabelPoint[below](O){$O$}
\end{tikzpicture}
```

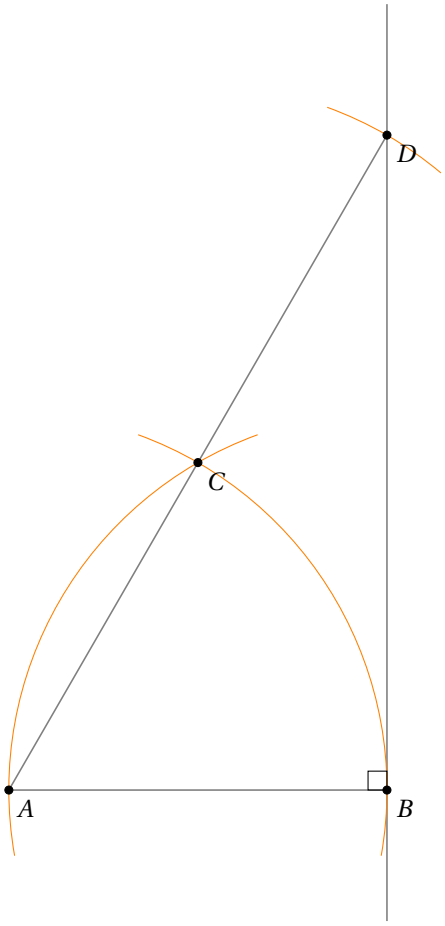
1.6 R with nodes选项示例



```
\begin{tikzpicture}
  \tkzDefPoint(0,0){O}
  \tkzDefPoint(2,-1){A}
  \tkzDefPoint(1,1){B}
  \tkzCalcLength(B,A)\tkzGetLength{radius}
  \tkzDrawArc[R with nodes](B,\radius pt)(A,O)
\end{tikzpicture}
```

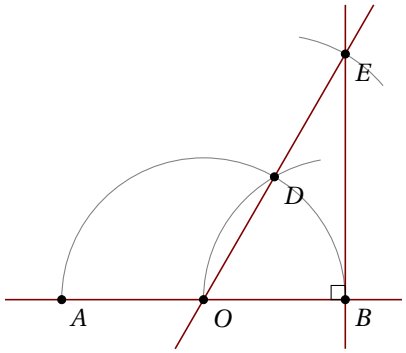
1.7 delta选项示例

该选项与**\tkzCompass**结果类似，它能够延伸圆弧，delta的单位是度。



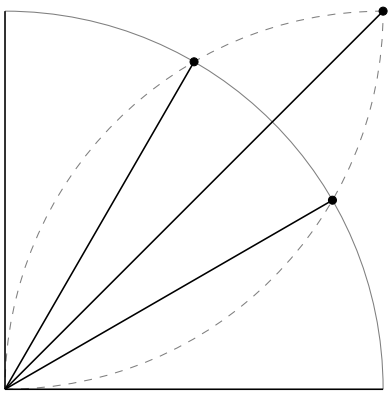

```
\begin{tikzpicture}
  \tkzDefPoint(0,0){A}
  \tkzDefPoint(5,0){B}
  \tkzDefPointBy[rotation= center A angle 60](B)
  \tkzGetPoint{C}
  \tkzSetUpLine[color=gray]
  \tkzDefPointBy[symmetry= center C](A)
  \tkzGetPoint{D}
  \tkzDrawSegments(A,B A,D)
  \tkzDrawLine(B,D)
  \tkzSetUpCompass[color=orange]
  \tkzDrawArc[orange,delta=10](A,B)(C)
  \tkzDrawArc[orange,delta=10](B,C)(A)
  \tkzDrawArc[orange,delta=10](C,D)(D)
  \tkzDrawPoints(A,B,C,D)
  \tkzLabelPoints(A,B,C,D)
  \tkzMarkRightAngle(D,B,A)
\end{tikzpicture}
```

1.8 angles选项示例 1




```
\begin{tikzpicture}[scale=.75]
  \tkzDefPoint(0,0){A}
  \tkzDefPoint(5,0){B}
  \tkzDefPoint(2.5,0){O}
  \tkzDefPointBy[rotation=center O angle 60](B)
  \tkzGetPoint{D}
  \tkzDefPointBy[symmetry=center D](O)
  \tkzGetPoint{E}
  \tkzSetUpLine[color=Maroon]
  \tkzDrawArc[angles](O,B)(0,180)
  \tkzDrawArc[angles,](B,O)(100,180)
  \tkzCompass[delta=20](D,E)
  \tkzDrawLines(A,B O,E B,E)
  \tkzDrawPoints(A,B,O,D,E)
  \tkzLabelPoints(A,B,O,D,E)
  \tkzMarkRightAngle(O,B,E)
\end{tikzpicture}
```

1.9 angles选项示例 2



```
\begin{tikzpicture}
  \tkzDefPoint(0,0){O}
  \tkzDefPoint(5,0){I}
  \tkzDefPoint(0,5){J}
  \tkzInterCC(O,I)(I,O)\tkzGetPoints{B}{C}
  \tkzInterCC(O,I)(J,O)\tkzGetPoints{D}{A}
  \tkzInterCC(I,O)(J,O)\tkzGetPoints{L}{K}
  \tkzDrawArc[angles](O,I)(0,90)
  \tkzDrawArc[angles,color=gray,style=dashed](I,O)(90,180)
  \tkzDrawArc[angles,color=gray,style=dashed](J,O)(-90,0)
  \tkzDrawPoints(A,B,K)
  \foreach \point in {I,A,B,J,K}{\tkzDrawSegment(O,\point)}
\end{tikzpicture}
```