

**Exemple 2 : new draw arc and arrow**

Complete the macro

Compléter la macro

```
\def\arcwitharrow#1 <#2> degrees (#3,#4) radius #5 center at #6 #7 { %
% #1 : 0 for solid, 1 for dotted
% #2 : length of arrow in pt
% # 3 : angle of arc, #4 angle of begin
% #5 : radius of arc
% #6 #7 coordinates center
```

which draws an arrow bow.

qui trace un arc fléché.

It is advisable to use the internal macro

Il est conseillé de d'utiliser la macro interne

```
\!arcwitharrow#1 <#2> degrees (#3,#4) radius #5 center at #6 #7
```

We leave it to the reader to make the calculations of the various elements from

Nous laissons au lecteur le soin de faire les calculs des divers éléments à partir de

$$\Omega = (2.00, 3.00), \text{ angle begin } = 30^\circ, \text{ angle arc } = 260^\circ$$

$$r \text{ begin } = 5, r \text{ arc } = 5, \text{ length arrow } = \pm 6\text{pt}$$

**Answers :**

We want this macro to be usable in a rectangular system.

Nous souhaitons que cette macro soit utilisable en système rectangulaire.

We can write

Nous pouvons écrire

```
% arrow and arc solid or dotted, modif \arcandarrow
\def\!arcwitharrow#1 <#2> degrees (#3,#4) radius #5 center at #6 #7 { %
\!sum(#3,#4){\!B}
\!coordarrowofarc {\!B} degrees #5 scale at #6 #7 coord (\!E,\!F)
% \!E \!F coordinates arrow head
\!dimenK=#2
\!reducangleofarc {\!B} degrees (#2,#5) angle {\!R}
% \!R = angle of begin socket
\!coordarrowofarc {\!R} degrees #5 scale at #6 #7 coord (\!G,\!H)
% \!G \!H coordinates begin socket
\!sum(\!R,-#4){\!R}\ignorespaces
\ifnum#1=1 \setdashes<1pt> %
\ifdim#2<0pt
\circulararc {\!R} degrees from {\!G} {\!H} center at #6 #7
\plot {\!G} {\!H} {\!E} {\!F} /
\else
\circulararc {-#3} degrees from {\!E} {\!F} center at #6 #7
\fi
\!sum(\!G,-\!E)\!G\!sum(\!H,-\!F)\!H\polarcossin (\!G,\!H) cossin {\!C} {\!S}
% \!C,\!S is cosine and sine of rotate arrow
\ifdim#2<0pt
\!mult(\!C,-1)\!C \!mult(\!S,-1)\!S
\fi
\rotatearrow<#2> [.25,.40] by {-\!C} {-\!S} at {\!E} {\!F}
% main macro
\def\arcwitharrow#1 <#2> degrees (#3,#4) radius #5 center at #6 #7 { %
\put{\!arcwitharrow#1 <#2> degrees (#3,#4) radius #5 center at #6 #7 $} [B] at 0 0
}%
```

The **drawarcandarrow.txt** fileLe fichier **drawarcandarrow.txt**

donne après compilation

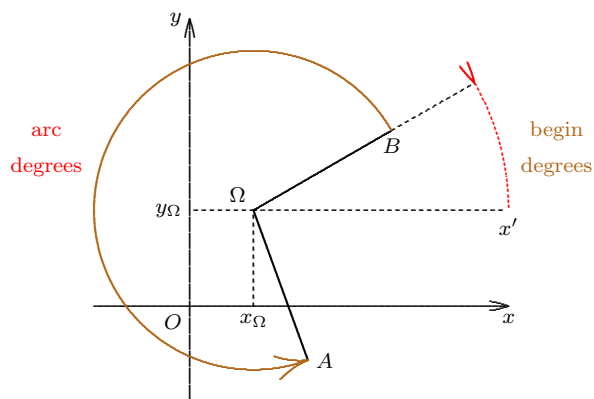


Figure 1: Draw arc and arrow