**setmiterlimit** *num* **setmiterlimit** –

sets the miter limit parameter in the graphics state to *num*, which must be a number greater than or equal to 1. This parameter controls the treatment of corners by **stroke** and related operators, such as **rectstroke** and **ustroke** (see Section 4.5.1, "Stroking"), when miter joins have been specified by **setlinejoin**. When path segments connect at a sharp angle, a miter join will result in a spike that extends well beyond the connection point. The purpose of the miter limit is to cut off such spikes when they become objectionably long.

At any given corner, the *miter length* is the distance from the point at which the inner edges of the strokes intersect to the point at which their outer edges intersect (see Figure 8.11). This distance increases as the angle between the segments

decreases. If the ratio of the miter length to the line width exceeds the specified miter limit, the **stroke** operator treats the corner with a bevel join instead of a miter join.

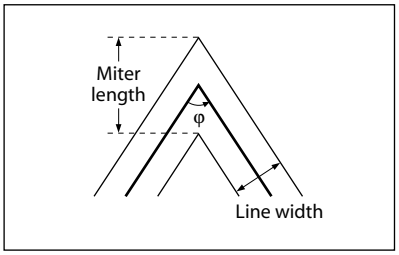


**FIGURE 8.11** *Miter length*

The ratio of miter length to line width is directly related to the angle $\varphi$ between the segments in user space by the following formula:

$$\frac{miterLength}{lineWidth} = \frac{1}{\sin\left(\frac{\varphi}{2}\right)}$$

Example miter limit values are:

- 1.414 cuts off miters (converts them to bevels) at angles less than 90 degrees.
- 2.0 cuts off miters at angles less than 60 degrees.
- 10.0 cuts off miters at angles less than 11 degrees.
- 1.0 cuts off miters at all angles, so that bevels are always produced even when miters are specified.

The default value of the miter limit is 10.0.

**Errors:** **rangecheck, stackunderflow, typecheck**
**See Also:** **currentmiterlimit, stroke, setlinejoin**