Two walls can be represented by images of the original vortex named as \( a \) respect to \( x \) and \( y \) which introduce three more vortices named as \( b,c,d \). The velocity at point \( B \) is superposition of the velocity of all four vortices.

For each vortex:

\[
\psi = -K \ln r = -K \ln((x^2 + y^2)^{0.5}) ; \quad \theta = K \tan^{-1}(y/x)
\]

\[
v_x = \frac{\partial \psi}{\partial y} = -\frac{K y}{(x^2 + y^2)}
\]

\[
v_y = -\frac{\partial \psi}{\partial x} = \frac{K x}{(x^2 + y^2)}
\]

**For vortex \( a \):** Coordinates of point \( B \) respect to vortex \( a \) is \( x=a \) and \( y=-a \) and \( K>0 \)

\[
v_x = -\frac{K(-a)}{2a^2} = \frac{K}{2a} ; \quad v_y = \frac{Ka}{2a^2} = \frac{K}{2a}
\]

**For vortex \( b \):** Coordinates of point \( B \) respect to vortex \( b \) is \( x=3a \) and \( y=-a \) and \( K<0 \)

\[
v_x = -\frac{K(-a)}{10a^2} = -\frac{K}{10a} ; \quad v_y = \frac{-K3a}{10a^2} = \frac{-3K}{10a}
\]

**For vortex \( c \):** Coordinates of point \( B \) respect to vortex \( c \) is \( x=3a \) and \( y=3a \) and \( K>0 \)

\[
v_x = -\frac{K(3a)}{18a^2} = -\frac{K}{6a} ; \quad v_y = \frac{K3a}{18a^2} = \frac{K}{6a}
\]

**For vortex \( d \):** Coordinates of point \( B \) respect to vortex \( d \) is \( x=a \) and \( y=3a \) and \( K<0 \)

\[
v_x = -\frac{K(3a)}{10a^2} = \frac{3K}{10a} ; \quad v_y = \frac{-Ka}{10a^2} = \frac{-K}{10a}
\]
When walls are present:

\[
V_B = \sqrt{V_{xB}^2 + V_{yB}^2} = 0.59 \frac{K}{a}
\]

When no walls are present:

\[
V_B = V_a = \sqrt{v_{xa}^2 + v_{ya}^2} = \sqrt{\left(\frac{K}{2a}\right)^2 + \left(\frac{K}{2a}\right)^2} = \frac{K}{\sqrt{2a}} = 0.71 \frac{K}{a}
\]