Known:
v_0 - linear velocity of the plate's center
$v_0 = 90 [km/h] = 25 [m/s]$

Find:
v_A - velocity of point A
v_B - velocity of point A

Plate moves by progress motion with velocity v_0. Subject of example is finding velocities of points A and B by method of temporary rotational motion.

$$v_0 = \omega \cdot r$$

$$\omega = \frac{v_0}{r}$$

$$r^2 + r^2 = \varrho^2$$

$$\varrho = \sqrt{r^2 + r^2}$$

$$\varrho = \sqrt{2 \cdot r^2}$$

$$\varrho = r \cdot \sqrt{2}$$

$$v_A = \omega \cdot \varrho$$

$$v_A = \frac{v_0}{r} \cdot r\sqrt{2} = v_0 \cdot \sqrt{2}$$

$$v_A = 127 \frac{km}{h} \qquad v_A = 35 \left[\frac{m}{s}\right]$$

$$v_B = \omega \cdot 2r = \frac{v_0}{r} \cdot 2r = 2 v_0$$

$$v_B = 180 \left[\frac{km}{h}\right] \qquad \left[\frac{m \cdot 10^3}{3600 s}\right]$$

$$v_B = 50 \left[\frac{m}{s}\right]$$