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## Example

In a fit of temporary insanity, a frustrated Rose student painted a piece of plywood to resemble a giant novelty-sized heat transfer book, took it to the front lawn, and set it on fire. Luckily, the fire was put out quickly and no one was hurt. Sometime after the fire was put out, it was observed that the "book" temperature was  $85^{\circ}\text{C}$  and the surrounding air temperature was  $29^{\circ}\text{C}$ . A small fan was placed beneath the "book" to aid in its cooling.

- Determine the minimum air velocity for which natural convection is negligible.
- Find the rate of heat transfer from the "book" if the air velocity is  $5\text{ m/s}$ .

