

## Problems: Two Dimensional Curl

Imagine a flat arrangement of particles covering the plane. Suppose all the particles are moving in counterclockwise circles about the origin with constant angular speed  $\omega$ .

Let  $\mathbf{F}(x, y)$  be the velocity field described by the velocity of the particles at point  $(x, y)$ . Find  $\mathbf{F}$  and show  $\text{curl}(\mathbf{F}) = 2\omega$ .

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