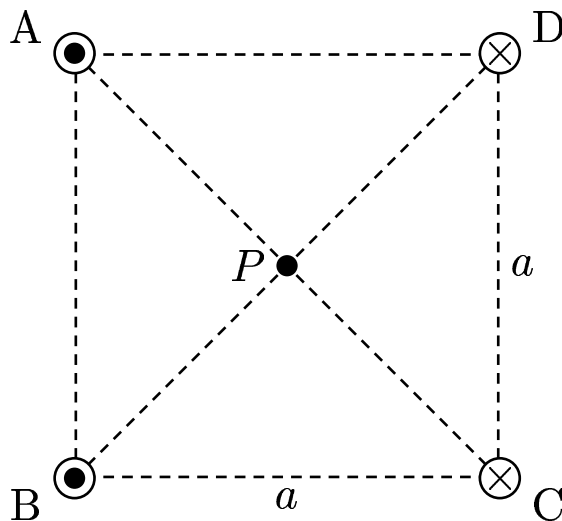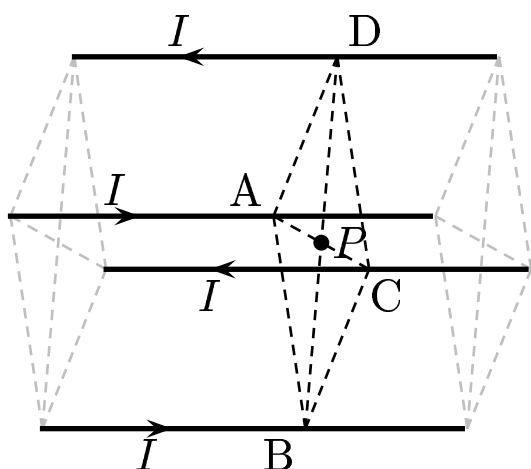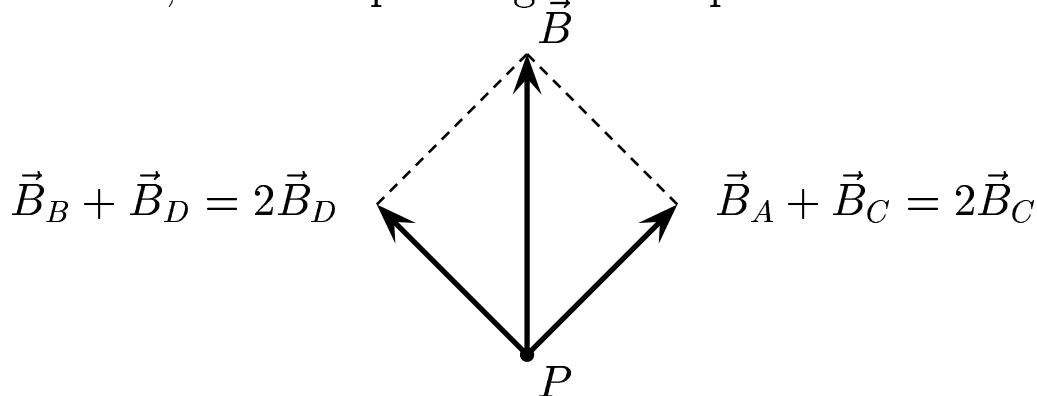Consider 4 parallel wires shown in a $3d$-view, and in a projected view from the right. The latter indicates that the wires are at four corners of a square, where each side has a length "a".

Using the figure on the right, sketch the field vectors due to the four wires at P, the center point, and the resultant vector $\vec{B}$.

A)   The direction of $\vec{B}$ is up.   B) The direction of $\vec{B}$ is down.
C)   The direction of $\vec{B}$ is right.   D) The direction of $\vec{B}$ is left.

The situation at P is shown below. The vector sum gives the resultant field vector $\vec{B}$, which is pointing in the upward direction.

$$\vec{B}_B + \vec{B}_D = 2\vec{B}_D \qquad\qquad \vec{B}_A + \vec{B}_C = 2\vec{B}_C$$

Answer A.