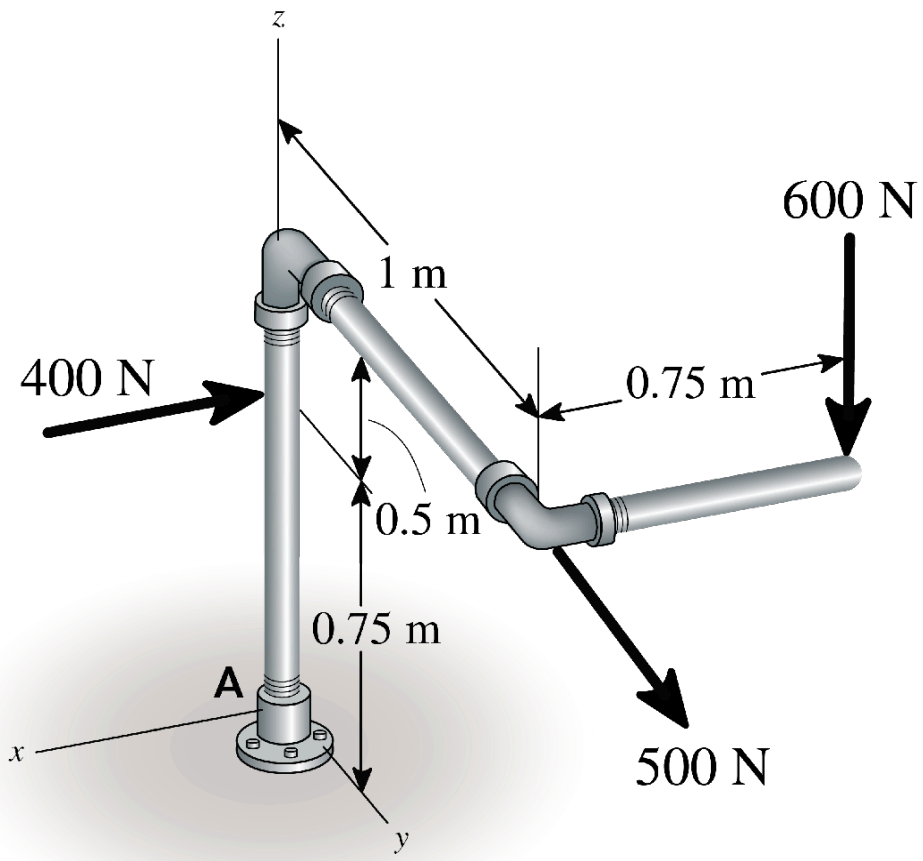

Determine the reaction components of the **fixed** support A in the above equilibrium system.

How many unknowns are there in the system?

6

Find the reaction components at support A.

Assume component vectors are pointing along the positive x, y, and z-axes.

$\Sigma F_x = 0 \rightarrow A_x - 400\,\text{N} = 0 \rightarrow A_x = 400\,\text{N}$

$\Sigma F_y = 0 \rightarrow A_y + 500\,\text{N} = 0 \rightarrow A_y = -500\,\text{N}$

$\Sigma F_z = 0 \rightarrow A_z - 600\,\text{N} = 0 \rightarrow A_z = 600\,\text{N}$

$\Sigma M_x = 0 \rightarrow (M_A)_x - (1.25\,\text{m})(500\,\text{N}) - (1\,\text{m})(600\,\text{N}) = 0 \rightarrow (M_A)_x = (1.25\,\text{m})(500\,\text{N}) + (1\,\text{m})(600\,\text{N})$

$$\Sigma M_y = 0 \rightarrow (M_A)_y - (0.75\ \text{m})(400\ \text{N}) - (0.75\ \text{m})(600\ \text{N}) = 0 \rightarrow (M_A)_y = (0.75\ \text{m})(400\ \text{N}) + (0.75\ \text{m})(600\ \text{N})$$

$$\Sigma M_z = 0 \rightarrow (M_A)_z = 0$$