1 | right handed coordinate system def

$$\hat{i} \times \hat{j} = \hat{k}$$

It follows that

$$\hat{i} \times \hat{k} = -\hat{j}$$
$$\hat{j} \times \hat{i} = -\hat{k}$$
$$\hat{j} \times \hat{k} = \hat{i}$$
$$\hat{k} \times \hat{j} = -\hat{i}$$

1.1 | a mnemonic

$$\hat{i}\hat{j}\hat{k}\hat{i}\hat{j}\hat{k}\ldots$$

Read it left to right, and the next one will be the cross product. If it's in the wrong answer, then read it backwards and reverse the sign.