

PROB: Phasors transform differentiation of sinusoids into multiplication. In other words, the phasor of the derivative of a sinusoid is the phasor of the sinusoid (without taking the derivative) multiplied by a numerical quantity. By completing the diagram below, determine what that quantity is. (The quantity goes in the box next to the vertical arrow on the right.)

Note that the arrows in the diagram represent operations being performed on the expression at the beginning of the arrow, with the operation being shown next to the arrow. The result of the operation is shown at the end of the arrow. Thus, the lower left-hand box contains the derivative of the upper left-hand box.

