71. We orient one phasor along the x axis with length 3.0 mm and angle 0 and the other at 70° (in the first quadrant) with length 5.0 mm. Adding the components, we obtain

$$\begin{aligned} 3.0 + 5.0\cos(70^\circ) &= 4.71 \text{ mm} \qquad \text{along } x \text{ axis} \\ 5.0\sin(70^\circ) &= 4.70 \text{ mm} \qquad \text{along } y \text{ axis .} \end{aligned}$$

(a) Thus, amplitude of the resultant wave is $\sqrt{4.71^2 + 4.70^2} = 6.7$ mm.

(b) And the angle (phase constant) is $\tan^{-1}(4.70/4.71) = 45^\circ$.