

$$\boxed{65} \quad 6.5 \sin\left(\frac{\pi}{6}(x - 3.65)\right) + 12.4 = 9 \Rightarrow 6.5 \sin\left(\frac{\pi}{6}(x - 3.65)\right) = -3.4 \Rightarrow \sin\left(\frac{\pi}{6}(x - 3.65)\right) = -0.5231$$

$$\Rightarrow \frac{\pi}{6}(x - 3.65) = \sin^{-1}(-0.5231)$$

$$\Rightarrow \frac{\pi}{6}(x - 3.65) \approx -0.5505 \quad \text{or} \quad \frac{\pi}{6}(x - 3.65) \approx 3.6920$$

$$\Rightarrow x - 3.65 \approx -1.0513 \quad \text{or} \quad x - 3.65 \approx 7.0513$$

$$\Rightarrow x \approx 2.6 \quad \text{or} \quad x \approx 10.7$$