

Trigonometry and Metric Relations

Finding the Rule of a Sine Function

2. A buoy bobs on the swell. Its height above mean sea level is 0 m at $t = 0$ s and rising, and it first reaches its greatest height, 1.8 m, at $t = 3$ s. The motion is sinusoidal.

- a) Find the rule $h(t) = a \sin(b(t - h_0)) + k$ of this function.
- b) Find the buoy's height at $t = 10$ s, to the nearest hundredth of a metre.

Finding the

Graphing a Cosine Function

4. Consider $f(x) = 3 \cos\left(\frac{\pi}{4}(x - 1)\right) + 2$

