(b) What is the equilibrium position of the object?

Answer: The equilibrium position is given by the non-oscillatory term in $x(t)$ and thus is $x_{eq} = 0.25\,m$

(c) Determine the amplitude of the motion and the maximum and minimum values of $x(t)$.

Answer: The amplitude of motion is the factor in front of the trigonometric function $A = 0.50\,m$.

The maximum value of $x(t)$ is $x_{max} = (0.25 + 0.50)\,m = 0.75\,m$.

The minimum value is $x(t) = (0.25 - 0.50)\,m = -0.25\,m$.

(d) What is the period of the motion?

Answer: Since $\omega = 0.2 \frac{rad}{sec}$ the period is simply

$$T = \frac{2\pi}{\omega} = \frac{2\pi\ rad}{2.0 \frac{rad}{s}} = 3.1\ sec.$$