Mathematical Description of a Wave

A periodic wave can be mathematically written as $y = A \sin(kx - \omega t)$

1. What part of the wave does $A$ describe?

2. If we take a snapshot of the wave, what is the distance between two crests (or troughs) called? How is this related to $k$?

3. The source that is generating the wave oscillates with a frequency of $f$. How is this related to $\omega$?

4. Write down the relationship between wave speed, wave frequency and wavelength.