

ANSWER: PROFILE

The answer is: a. Adding various pure waves will result in strange shaped waves, but Jean Fourier (who went with Napoleon to Egypt to study hieroglyphics) showed that ANY shape wave or profile can be represented as a sum of many pure waves. If the desired profile has small bumps or sharp corners, then many small (short wavelength or high frequency) waves will be required to make it. There is only one limitation on what kinds of profiles can be built from pure waves.

That is that the profile must be single valued. This means any vertical line drawn through the profile must cut it at only one point, like point 1. You cannot have a profile with a hooked nose because the vertical line cuts that profile 1, 2, 3 times.

