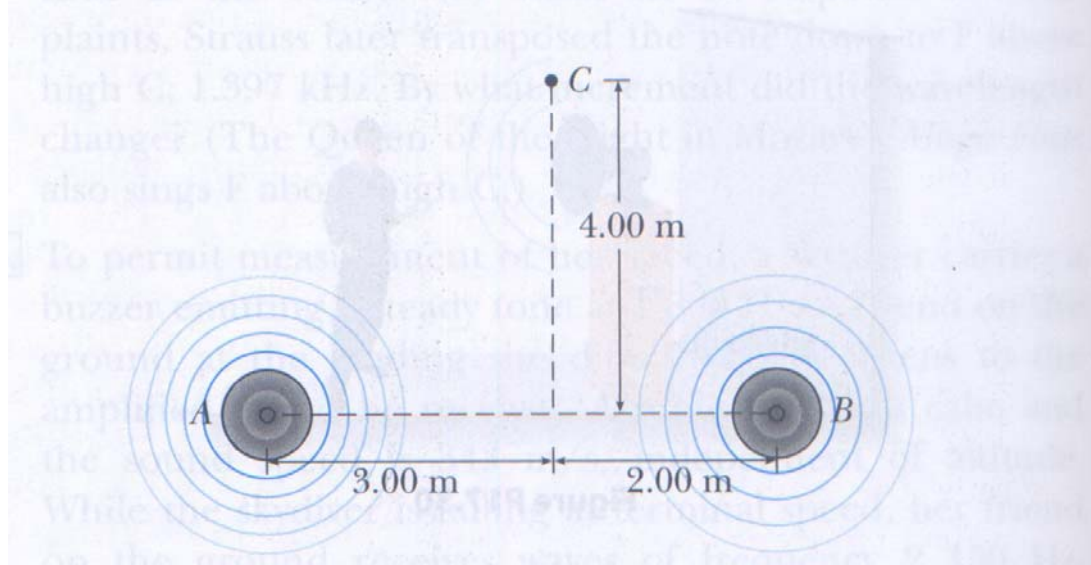


17A

▲ A family ice show is held at an enclosed arena. The skaters perform to music with level 80.0 dB. This level is too loud for your baby, who yells at 75.0 dB. (a) What total sound intensity engulfs you? (b) What is the combined sound level?

17B

Two small speakers emit sound waves of different frequencies equally in all directions. Speaker *A* has an output of 1.00 mW, and speaker *B* has an output of 1.50 mW. Determine the sound level (in decibels) at point *C* in Figure P17.24 assuming (a) only speaker *A* emits sound, (b) only speaker *B* emits sound, and (c) both speakers emit sound.



17C

▲ A supersonic jet traveling at Mach 3.00 at an altitude of 20 000 m is directly over a person at time  $t = 0$  as shown in Figure P17.37. (a) At what time will the person encounter the shock wave? (b) Where will the plane be when the “boom” is finally heard? Assume the speed of sound in air is 335 m/s.

