

## Interdisciplinary Application

For use with pages 498–505

### Harps

**MUSIC** Although harps are known to have existed in ancient times from depictions on the Egyptian pyramids, its history and development are almost impossible to trace. As the harp spread throughout Europe and eventually to America, each culture seems to have its own version. Originally a harp could only play the notes of a scale, or the equivalent to the white piano keys. After trying to design harps with multi-rows of strings for the sharp and flat notes, a system of pedals to sharpen or flatten an entire set of notes is now a standard feature.

The harp is an instrument with almost as many shapes and sizes as there are harpists, for very little standardization exists. The types of wood, number of strings, and string spacing are literally left up to individual crafters. After almost a century of decline, a major resurgence began in the 1970s with the increased popularity of folk music. This revival continues today as harps are not only included in orchestral concerts, but also heard as background music at weddings and in restaurants and hotels.

**In Exercises 1–3, use the diagram of the first 11 strings of a 22-string folk harp shown below. Write a proportion and find the missing measure. (All lengths are in millimeters.)**

1.  $x$
2.  $y$
3.  $z$

