



Personal Tutors

Chapter 2

Personal Tutor Activity 2.1 – Find Unit Rates

- 1. Apply** A design engineer notes that the full-scale version of his design will be approximately 24 feet in length, 12 feet in height, and 6 feet in depth. The scale model must be no larger than 18 inches in any direction. Determine if this scale (or unit rate) will be feasible given the dimensions of the full-scale design.
- 2. Starting Hint** Determine the unit rate for the longest part of the model. This will be the limiting factor in this problem.

Personal Tutor Activity 2.2 – Speed/Momentum

- 1. Apply** An object A, weighing 3.5 kg, is moving east at a speed of 20 m/s and collides with an object B, weighing 4.2 kg, moving north at a speed of 30 m/s. The two objects stay connected after the collision. In what direction and at what speed do they move after the collision?
- 2. Starting Hint** Write out the equation first, and then write the numbers you know underneath each part.