1. *Minimizing cost.* A closed-top cylindrical container is to have a volume of 250 in<sup>2</sup>. Assume the costs of the materials for making the cylindrical container described are \$0.005 for the circular base and top and \$0.003 for the wall. What dimensions will minimize the cost of materials?

2. Determining ticket price. Promoters of international fund-raising concerts must walk a fine line between profit and loss, especially when determining the price to charge for admission to closed-circuit TV showings in local theaters. By keeping records, a theater determines that at an admission price of \$26, it averages 1000 people in attendance. For every drop in price of \$1, it gains 50 customers. Each customer spends an average of \$4 on concessions. What admission price should the theater charge in order to maximize total revenue? (There are two aspects to the revenue. Don't overthink this one!)