

**PROBLEM 8-24** Simple Rate of Return; Payback [LO 8-5, LO 8-6]

Nagoya Amusements Corporation places electronic games and other amusement devices in supermarkets and similar outlets throughout Japan. Nagoya Amusements is investigating the purchase of a new electronic game called Mystic Invaders. The manufacturer will sell 20 games to Nagoya Amusements for a total price of ¥180,000. (The Japanese currency is the yen, which is denoted by

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the symbol ¥.) Nagoya Amusements has determined the following additional information about the game:

- a. The game would have a five-year useful life and a negligible salvage value. The company uses straight-line depreciation.
- b. The game would replace other games that are unpopular and generating little revenue. These other games would be sold for a total of ¥30,000.
- c. Nagoya Amusements estimates that Mystic Invaders would generate annual incremental revenues of ¥200,000 (total for all 20 games). Annual incremental out-of-pocket costs would be (in total): maintenance, ¥50,000; and insurance, ¥10,000. In addition, Nagoya Amusements would have to pay a commission of 40% of total revenues to the supermarkets and other outlets in which the games were placed.

*Required:*

(Ignore income taxes.)

1. Prepare a contribution format income statement showing the net operating income each year from Mystic Invaders.
2. Compute the simple rate of return on Mystic Invaders. Will the game be purchased if Nagoya Amusements accepts any project with a simple rate of return greater than 14%?
3. Compute the payback period on Mystic Invaders. If the company accepts any investment with a payback period of less than three years, will the game be purchased?