Solution 1.38

Valley Rendering, Inc. is considering purchasing a new flotation system for grease recovery. The company can finance a $150,000 system at 5% per year compound interest or 5.5% per year simple interest. If the total amount owed is due in a single payment at the end of 3 years, (*a*) which interest rate should the company select, and (*b*) how much is the difference in interest between the two schemes?

Solution:

(a) Total due; compound interest = 150,000(1.05)(1.05)(1.05)

$$= \$173,644$$

Total due; simple interest = P + Pni

$$= 150,000 + 150,000(3)(0.055)$$
$$= 150,000 + 24,750$$
$$= \$174,750$$

Select the 5% compound interest rate

(b) Difference = 174,750 – 173,644

$$= \$1106$$