Revisions are shown in red.

Question 3, p. 8
Consider two sets, A and B, where Set A has four elements and Set B has five elements. A function \( f(x) \) that maps Set A to Set B, where each element of A is mapped to a unique element of B, is:

- A. injective
- B. surjective
- C. bijective
- D. the inverse of the function mapping B to A

Question 27, p. 17
A section of copper has resistivity of 10 \( \Omega \cdot m \) at 20°C. The temperature coefficient of copper is 0.004041 \( ^\circ C^{-1} \). If the temperature is increased to 30°C, the resistivity (\( \Omega \cdot m \)) is most nearly:

- A. 8.96
- B. 10.40
- C. 11.04
- D. 11.20

Solution Table, p. 62
Number 3 in the table should be A.

Solution 3, p. 63
The definitions of injective, surjective, and bijective functions are given in the Discrete Math section in the Mathematics chapter of the FE Reference Handbook.

Since no element of B is a function of more than a single element of A, there is a one-to-one (i.e., injective) relationship from A to B. \( f(x) \) cannot be surjective since at least one element of B does not map from any element of A. Since it cannot be surjective, it is, by definition, not bijective. In order for a function to have an inverse, it must be bijective.

THE CORRECT ANSWERS IS: A
Solution 27, p. 73
From the Resistivity section in the Electrical and Computer Engineering chapter of the *FE Reference Handbook*, there is a linear relationship between resistivity and temperature for metals such as copper according to the following relationship:

\[ \rho = \rho_0 \left[ 1 + \alpha (T - T_0) \right] \]

where \( \alpha \) is the temperature coefficient of resistivity per degree, \( \rho_0 \) is the resistivity at \( T_0 \), \( T \) is for temperature in °C, and \( \rho \) is the resistivity of the material.

\[ \rho = 10[1 + 0.004041(30 - 20)] \]
\[ = 10.40 \Omega \cdot m \]

THE CORRECT ANSWER IS: B