**Chapter 7**

**Second-Order Differential Equations**

**7.2 Nonhomogeneous Linear Equations**

**Section Exercises**

**Solve the following equations using the method of undetermined coefficients.**

55. 

Answer: 

57. 

Answer: 

59. 

Answer: 

61. 

Answer: 

63. 

Answer: 

65. 

Answer: 

**In each of the following problems,**

1. **Write the form for the particular solution  for the method of undetermined coefficients.**
2. **[T] Use a computer algebra system to find a particular solution to the given equation.**

67. 

Answer: a.  b. 

69. 

Answer: a.  b. 

71. 

Answer: a. b. 

**Solve the differential equation using either the method of undetermined coefficients or the variation of parameters.**

73. 

Answer: 

75. 

Answer: 

**Solve the differential equation using the method of variation of parameters.**

77. 

Answer: 

79. 

Answer: 

**Find the unique solution satisfying the differential equation and the initial conditions given, where is the particular solution.**

81. 

Answer: 

83. 

Answer: 

**In each of the following problems, two linearly independent solutions— and —are given that satisfy the corresponding homogeneous equation. Use the method of variation of parameters to find a particular solution to the given nonhomogeneous equation. Assume x > 0 in each exercise.**

85. 

Answer:

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