**Chapter 7**

**Second-Order Differential Equations**

**7.2 Nonhomogeneous Linear Equations**

**Section Exercises**

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

1. 

Answer:

1. 

Answer: 

1. 

Answer: 

1. 

Answer: 

1. 

Answer: 

1. 

Answer: 

1. 

Answer: 

1. 

Answer: 

1. 

Answer: 

1. 

Answer: 

1. 

Answer: 

1. 

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.**
3. 

Answer: a.  b. 

1. 

Answer: a.  b. 

1. 

Answer: a.  b.

1. 

Answer: a.  b. 

1. 

Answer: a.  b. 

1. 

Answer: a. b. 

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

1. 

Answer: 

1. 

Answer: 

1. 

Answer: 

1. 

Answer: 

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

1. 

Answer: 

1. 

Answer: 

1. 

Answer: 

1. 

Answer: 

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

1. 

Answer: 

1. 

Answer: 

1. 

Answer: 

1. 

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.**

1. 

Answer:

1. 

Answer:

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