MATH 2552 Differential Equations: First and second order differential equations

1. What is a first order differential equation?

A. An equation that can be solved using only one derivative

B. An equation that can be solved using only one integral

C. An equation that can be solved using both derivatives and integrals

D. An equation that cannot be solved using derivatives or integrals

2. What is a second order differential equation?

A. An equation that can be solved using only two derivatives

B. An equation that can be solved using only two integrals

C. An equation that can be solved using both derivatives and integrals

D. An equation that cannot be solved using derivatives or integrals

3. How do you solve a first order differential equation?

A. By using only one derivative

B. By using only one integral

C. By using both derivatives and integrals

D. By using neither derivatives nor integrals

4. How do you solve a second order differential equation?

A. By using only two derivatives

B. By using only two integrals

C. By using both derivatives and integrals

D. By using neither derivatives nor integrals

5. What is the order of a differential equation?

A. The highest derivative in the equation

B. The highest power of the independent variable in the equation

C. The highest power of the dependent variable in the equation

D. The highest power of the independent variable in the equation divided by the highest power of the dependent variable in the equation

6. What is the degree of a differential equation?

A. The highest derivative in the equation

B. The highest power of the independent variable in the equation

C. The highest power of the dependent variable in the equation

D. The highest power of the independent variable in the equation divided by the highest power of the dependent variable in the equation

7. What is an ordinary differential equation?

A. A differential equation that can be solved using only one derivative

B. A differential equation that can be solved using only one integral

C. A differential equation that can be solved using both derivatives and integrals

D. A differential equation that cannot be solved using derivatives or integrals

8. What is a partial differential equation?

A. A differential equation that can be solved using only one derivative

B. A differential equation that can be solved using only one integral

C. A differential equation that can be solved using both derivatives and integrals

D. A differential equation that cannot be solved using derivatives or integrals

9. What is the general solution of a differential equation?

A. The solution that contains all the possible solutions of the equation

B. The solution that contains all the real solutions of the equation

C. The solution that contains all the imaginary solutions of the equation

D. The solution that contains all the trivial solutions of the equation

10. What is a particular solution of a differential equation?

A. The solution that contains all the possible solutions of the equation

B. The solution that contains all the real solutions of the equation

C. The solution that contains all the imaginary solutions of the equation

D. The solution that contains all the trivial solutions of the equation

11. What is a homogeneous differential equation?

A. A differential equation that can be solved using only one derivative

B. A differential equation that can be solved using only one integral

C. A differential equation that can be solved using both derivatives and integrals

D. A differential equation that cannot be solved using derivatives or integrals

12. What is a nonhomogeneous differential equation?

A. A differential equation that can be solved using only one derivative

B. A differential equation that can be solved using only one integral

C. A differential equation that can be solved using both derivatives and integrals

D. A differential equation that cannot be solved using derivatives or integrals

13. What is the order of a differential equation?

A. The highest derivative in the equation

B. The highest power of the independent variable in the equation

C. The highest power of the dependent variable in the equation

D. The highest power of the independent variable in the equation divided by the highest power of the dependent variable in the equation

14. What is the degree of a differential equation?

A. The highest derivative in the equation

B. The highest power of the independent variable in the equation

C. The highest power of the dependent variable in the equation

D. The highest power of the independent variable in the equation divided by the highest power of the dependent variable in the equation

15. What is an ordinary differential equation?

A. A differential equation that can be solved using only one derivative

B. A differential equation that can be solved using only one integral

C. A differential equation that can be solved using both derivatives and integrals

D. A differential equation that cannot be solved using derivatives or integrals

16. What is a partial differential equation?

A. A differential equation that can be solved using only one derivative

B. A differential equation that can be solved using only one integral

C. A differential equation that can be solved using both derivatives and integrals

D. A differential equation that cannot be solved using derivatives or integrals

17. What is the general solution of a differential equation?

A. The solution that contains all the possible solutions of the equation

B. The solution that contains all the real solutions of the equation

C. The solution that contains all the imaginary solutions of the equation

D. The solution that contains all the trivial solutions of the equation

18. What is a particular solution of a differential equation?

A. The solution that contains all the possible solutions of the equation

B. The solution that contains all the real solutions of the equation

C. The solution that contains all the imaginary solutions of the equation

D. The solution that contains all the trivial solutions of the equation

19. What is a homogeneous differential equation?

A. A differential equation that can be solved using only one derivative

B. A differential equation that can be solved using only one integral

C. A differential equation that can be solved using both derivatives and integrals

D. A differential equation that cannot be solved using derivatives or integrals

20. What is a nonhomogeneous differential equation?

A. A differential equation that can be solved using only one derivative

B. A differential equation that can be solved using only one integral

C. A differential equation that can be solved using both derivatives and integrals

D. A differential equation that cannot be solved using derivatives or integrals

Answer Key:

1. A
2. C
3. C
4. C
5. A
6. B
7. D
8. C
9. A
10. B
11. D
12. C
13. A
14. B
15. A
16. C
17. A
18. B
19. D
20. C