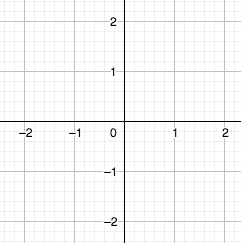
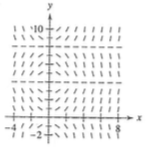
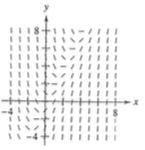
**Chapter 6 TEST**

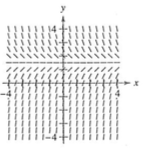
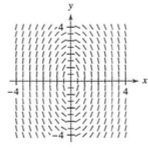
**NON-CALCULATOR SECTION**

**Multiple Choice**

1. A) B) C) D)

**Free Responses**

1. Determine whether the function is a solution to the differential equation
2. Solve the differential equations :  
     
   a)   
     
     
     
     
   b)   
     
     
     
     
     
     
     
     
     
   c) with
3. a) Sketch the slope field for the differential equation +1  
     
      
     
   b) Use the slope field to sketch the solution that passes through .
4. Match each equation to its slope field :  
   A : B : C : D :   
     

1. Evaluate the following integrals :  
     
   a)

b)   
  
  
  
  
  
  
  
  
  
  
c)   
  
  
  
  
  
  
  
  
  
  
  
d)

7. Find the indefinite integral :  
  
a)   
  
  
  
  
  
  
  
  
  
b)   
  
  
  
  
  
  
  
  
  
c)   
  
  
  
  
  
  
  
  
  
  
  
d)   
  
  
  
  
  
  
  
  
  
  
e)

**Chapter 6 TEST**

**CALCULATOR SECTION**

**Multiple Choice**

8. A pizza, heated to a temperature of 350 degrees Fahrenheit (oF), is taken out of an oven and placed in a 75oF room at time *t* = 0 minutes. The temperature of a pizza is changing at a rate of degrees Fahrenheit per minute. To the nearest degree, what is the temperature of the pizza at time  
*t* = 5 minutes?  
  
A) 112oF B) 119oF C) 147oF D) 238oF E) 335oF

9. If Radium decomposes at a rate proportional to the amount present, then the amount *R* left after *t* years, if *Ro* is present initially and *c* is the negative constant of proportionality, is given by  
  
A) B) C) D) E)

10. According to newton’s law of cooling, the temperature of an object decreases at a rate proportional to the difference between its temperature and that of the surrounding air. Suppose a corpse at a temperature of 32oC arrives at a mortuary where the temperature is kept at 10oC. Then the differential equation satisfied by the temperature *T* of the corpse *t* hours later is  
  
A) B) C) D)

**Free Responses**

11. A population grows continuously at a rate of 1.85%. How long will it take the population to double?

12. Find the balance in an account when $1000 is deposited for 8 years at an interest rate of 4% compounded continuously.