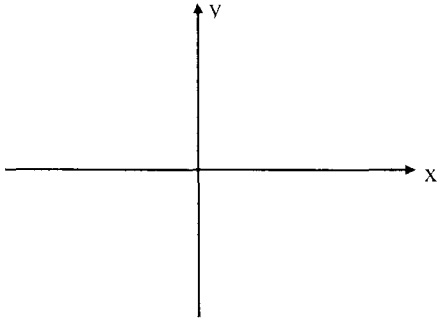


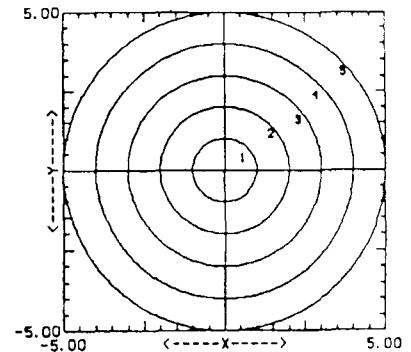
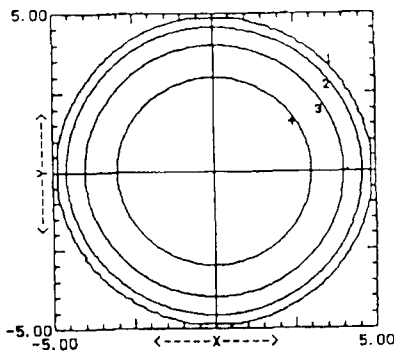
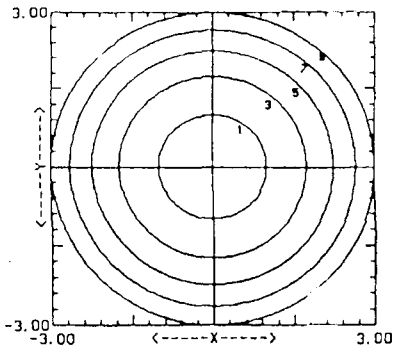
CONTOUR DIAGRAMS – Section 12.3

Example:

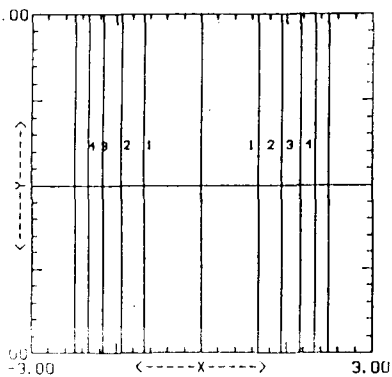
Find the general form of the contours of $f(x, y) = e^{2x+y} + 3$. Include any restrictions. Give a sketch.



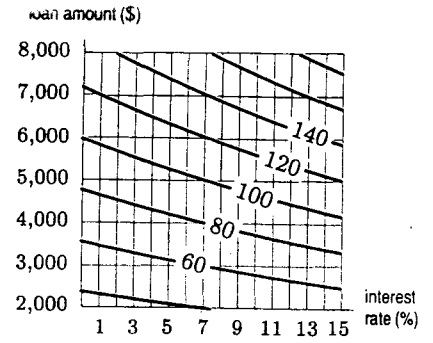
1. In each case, sketch the surface for the given contour diagram.



2. Sketch the surface and write a possible equation.



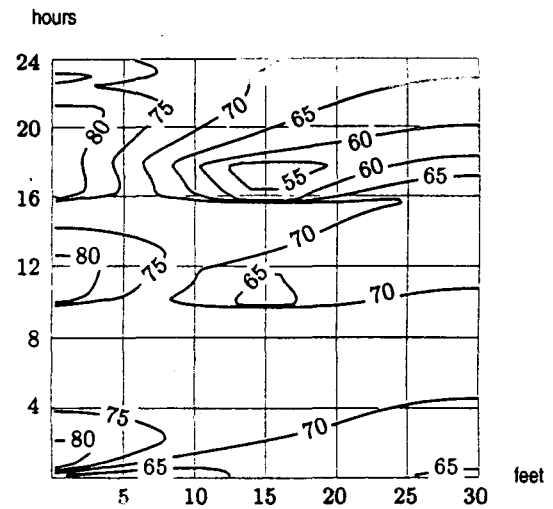
3. A. Estimate $P(15, 5000)$ and give a practical interpretation.



B. When the interest rate is 7%, how much more can you borrow if you increase your payment by \$20?

4. This contour diagram describes the heat distribution along a wall over time. $t = 0$ corresponds to midnight. There is a window in the middle of the wall and a heater at one end of the wall. It is known that there is a thermostat on the wall a few feet to the left or right of the window.

- A. Where is the window?
- B. When is the window open?
- C. What temperature is the thermostat set at?
- D. Where is the thermostat?



- 5. A. Which path has a steeper climb?
- B. Which path has a better view?
- C. Which path might follow a stream?

