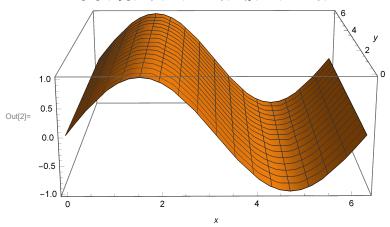
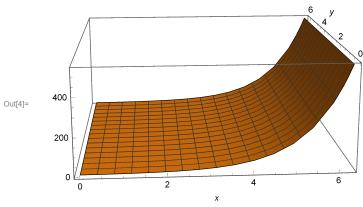
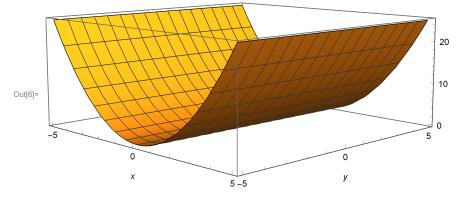
$\begin{array}{ll} & \text{In[1]:=} \ f[x_{_}, y_{_}] := Sin[x]; \ (\star \ \mathbb{R}^2 \to \mathbb{R} \ \star) \\ & \text{Plot3D[f[x, y], } \{x, \ 0, \ 2Pi\}, \ \{y, \ 0, \ 2Pi\}, \ AxesLabel \to Automatic] \\ \end{array}$



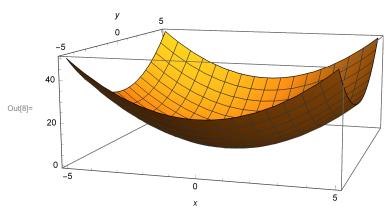
$$\label{eq:local_local_local_local} \begin{split} & \ln[3] := \ f[x_{_}, \, y_{_}] := Exp[x]; \quad (* \ \mathbb{R}^2 \to \mathbb{R} \ *) \\ & \quad \text{Plot3D[}f[x, \, y], \ \{x, \, 0, \, 2\,\text{Pi}\}, \ \{y, \, 0, \, 2\,\text{Pi}\}, \ \text{AxesLabel} \to \text{Automatic]} \end{split}$$



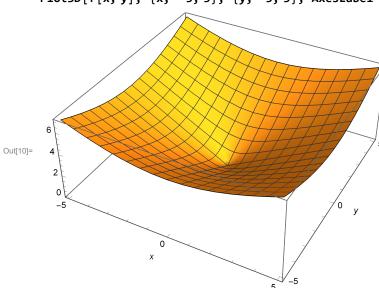
 $\begin{array}{ll} & \text{In}[5]:= \ f[x_{_}, \ y_{_}] := x^2; & (* \ \mathbb{R}^2 \to \mathbb{R} \ *) \\ & \text{Plot3D}[f[x, \ y], \ \{x, \ -5, \ 5\}, \ \{y, \ -5, \ 5\}, \ \text{AxesLabel} \to \text{Automatic}] \end{array}$



$$\label{eq:local_problem} \begin{split} & \mbox{In[7]:= } f[x_{\tt},y_{\tt}] := x^2 + y^2; & (* \ \mathbb{R}^2 \to \mathbb{R} \ *) \\ & \mbox{Plot3D[}f[x,y], \ \{x, -5, 5\}, \ \{y, -5, 5\}, \ \mbox{AxesLabel} \to \mbox{Automatic]} \end{split}$$



 $\begin{array}{ll} & \text{In}[9]:= \ f[x_{_}, \ y_{_}] := \sqrt{\left(x^2 + y^2\right)}; & (* \ \mathbb{R}^2 \to \mathbb{R} \ *) \\ & \text{Plot3D}[f[x, y], \ \{x, \ -5, 5\}, \ \{y, \ -5, 5\}, \ \text{AxesLabel} \to \text{Automatic}] \end{array}$



 $\begin{array}{lll} & \text{In[11]:=} & f[x_{-}, y_{-}] := Sin \left[\sqrt{\left(x^2 + y^2 \right)} \right]; & (\star \ \mathbb{R}^2 \rightarrow \mathbb{R} \ \star) \\ & & \text{Plot3D[f[x, y], } \{x, -12, 12\}, \ \{y, -12, 12\}, \ \text{AxesLabel} \rightarrow \text{Automatic}] \\ \end{array}$

