1. This problem concerns the equation $\sin (x+y)=x^{2}$.
(a) Which of the following points is on the graph this equation? $\quad(\pi, 0), \quad(0, \pi), \quad(\pi, \pi)$
(b) Find $y^{\prime}$.
(c) For each point $\left(x_{0}, y_{0}\right)$ from part (a) that is on the graph of $\sin (x+y)=x^{2}$, find the slope of the tangent line to the graph at that point.
2. This problem concerns the equation $e^{x y}-y^{2}=x$.
(a) Which of the following points is on the graph this equation? $\quad(1,0), \quad(-1,0)$,
(b) Find $y^{\prime}$.
(c) For each point $\left(x_{0}, y_{0}\right)$ from part (a) that is on the graph of $e^{x y}-y^{2}=x$, find the slope of the tangent line to the graph at that point.
3. This problem concerns the equation $\cos (x+y)=y^{2}$.
(a) Which of the following points is on the graph this equation? $\quad(\pi, \pi), \quad(0,0), \quad(\pi / 2,0)$
(b) Find $y^{\prime}$.
(c) For each point $\left(x_{0}, y_{0}\right)$ from part (a) that is on the graph of $\cos (x+y)=y^{2}$, find the slope of the tangent line to the graph at that point.
4. This problem concerns the equation $e^{x y}=y^{3}+x^{2}$.
(a) Which of the following points is on the graph this equation? $\quad(1,0), \quad(0,-1)$,
(b) Find $y^{\prime}$.
(c) For each point $\left(x_{0}, y_{0}\right)$ from part (a) that is on the graph of $e^{x y}=y^{3}+x^{2}$, find the slope of the tangent line to the graph at that point.
