10.4: (SYSTEMS OF NONLINEAR EQUATIONS)

If the system $\begin{cases} 3(x-1)^2 - 2(y+1)^2 = 19 \\ (x-1)^2 - (y+1)^2 = 5 \end{cases}$ has a solution (a, b) in the first Quadrant, then $a + b =$ A) -5 B) 1 C) 5 D) -3 E) 2	System of nonlinear equations.
If (a, b) is a point of intersection between the curves $2^x + 2^y = 10$ and $4^x + 4^y = 68$, then $a + b =$ A) 1 B) 3 C) 2 D) 4 E) 0	System of nonlinear equations.

If (m,n) and (p,q) are the solutions of the system of equations $\begin{cases}2xy+3=0\\x+2y=2\end{cases}$, then $m+n+p+q=$ A) 5 B) 1 C) 3 D) 2 E) 4	System of nonlinear equations.
If $(a,b), a>0$ is the solution of the system $\begin{cases}2x-y=4\\xy=30\end{cases}$, then $a+b=$ A) 11 B) 9 C) 8 D) 10 E) 13	System of nonlinear equations.
The longest side of a right triangle is 29 cm in length. One of the other two sides is 1 cm longer than the shortest side. The sum of the lengths of the two shorter sides of the triangle is equal to A) 41 cm B) 31 cm C) 51 cm D) 43 cm E) 53 cm	System of nonlinear equations.

The solution set of the following system is $$(x-2)^2+(y+3)^2=20$$ $$(x-3)^2+(y+2)^2=10$$ (a) $\{(4,1),(6,-1)\}$ (b) $\{(-4,1),(6,1)\}$ (c) $\{(2,1),(3,-1)\}$ (d) $\{(-2,1),(-3,1)\}$ (e) $\{(3,-1),(5,-2)\}$	System of nonlinear equations.
If (a,b) is the solution of the system $\begin{cases} y=e^x-5 \\ y=-2e^x+1 \end{cases}$, then $e^a=$ A) 2 B) -3 C) 4 D) 0 E) -2	System of nonlinear equations.
The circle $x^2+y^2-2x=1$ and the line $2x+y=5$ intersect at (A) $\left(\frac{12}{5},\frac{1}{5}\right)$ and $(2,1)$ B) $\left(\frac{3}{5},\frac{19}{5}\right)$ and $(3,-1)$ C) $\left(\frac{1}{5},\frac{23}{5}\right)$ and $(4,-3)$ D) $\left(\frac{3}{5},\frac{19}{5}\right)$ and $(2,1)$ E) $\left(\frac{1}{5},\frac{23}{5}\right)$ and $(3,-1)$	System of nonlinear equations.

If (a,b) is the solution of the system of eq $\begin{cases} \frac{1}{x+2}+\frac{1}{y}=1 \\ \frac{1}{x+2}-\frac{1}{y}=-3 \end{cases}$ then $a+b=$ A) $\frac{19}{3}$ B) 6 C) $-\frac{5}{2}$ D) $-\frac{1}{2}$ E) $\frac{1}{5}$	System of nonlinear equations.
If (a,b) and (c,d) are the solutions of the system $\begin{cases} (x-1)^2+(y-2)^2=4 \\ \frac{(x-1)^2}{4}+\frac{(y-2)^2}{9}=1 \end{cases}$ then $a+b+c+d=$ a) 6 b) 10 c) 12 d) 8 e) 4	System of nonlinear equations.

The number of the solutions of the nonlinear system $\begin{cases} 3x^2 + 2xy + y^2 = 4 \\ 4x^2 + xy + y^2 = 4 \end{cases}$ is A) 4 B) 1 C) 3 D) 2 E) 0	System of nonlinear equations.
If (x, y) is the solution of the system $\begin{cases} y = \log(x + 1) + 3 \\ y = \log(x + 2) + 2' \end{cases}$ then $27x =$ A) -24 B) 15 C) -18 D) 36 E) -4	System of nonlinear equations.
The number of solutions of the system of nonlinear equations $\begin{cases} 2x^2 - y^2 = 4 \\ x - \lvert y \rvert = 0 \end{cases}$, is A) 2 B) 3 C) 0 D) 1 E) 4	System of nonlinear equations.

If (m,n) and (p,q) are the solutions of the system $\begin{cases} x-y=4 \\ xy=12 \end{cases}$, then $m+n+p+q=$ A) 0 B) -8 C) -16 D) -10 E) -6	System of nonlinear equations.
If (a,b) and (c,d) are the solutions of the system $\begin{cases} x^2-3xy+y^2=4 \\ x^2-5xy+6y^2=0 \end{cases}$ then $ac+bd=$ A) -12 B) -40 C) -10 D) -36 E) -20	System of nonlinear equations.
The system of equations $\begin{cases} 2x^2+3y^2=5 \\ x^2-3y^2=4 \end{cases}$ has A) one real solution B) three real solutions C) four real solutions D) two real solutions E) no real solutions	System of nonlinear equations.

The number of solutions of the system of non-linear equations $\begin{cases} 4x^2 + 9y^2 = 36 \\ x^2 - y^2 = 25 \end{cases}$ is A) 4 B) 3 C) 2 D) 1 E) 0	System of nonlinear equations.
If one of the solutions of the system of equations $\begin{cases} 5x + y = 3 \\ y = x^2 - 3x - 5 \end{cases}$ is (A, B) where $A + B = -5$, then $AB =$ A) 4 B) 2 C) -7 D) 15 E) -14	System of nonlinear equations.
The number of all solutions of the system $\begin{cases} \frac{4}{x^2} + \frac{6}{y^2} = \frac{7}{2} \\ \frac{3}{x^2} - \frac{6}{y^2} = 0 \end{cases}$, is (a) 4 (b) 3 (c) 2 (d) 1 (e) 0	System of nonlinear equations.