PROBLEMS AND SOLUTIONS - SYSTEMS OF NON-LINEAR EQUATIONS

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PLEASE NOTE THAT YOU CANNOT ALWAYS USE A CALCULATOR ON THE ACCUPLACER - COLLEGE-LEVEL MATHEMATICS TEST! YOU MUST BE ABLE TO DO SOME PROBLEMS WITHOUT A CALCULATOR!

Problem 1:

Solve the following system. Express your answer(s) as coordinates.

$$y - x^2 = -11$$

$$y^2 + x^2 = 13$$

Problem 2:

Solve the following system. Express your answer(s) as coordinates.

$$x + y = 0$$

$$x^3 - 5x - y = 0$$

Problem 3:

Solve the following system. Express your answer(s) as coordinates.

$$x^2 + y^2 = 1$$

$$y = -x + 3$$

Problem 4:

Solve the following system. Express your answer(s) as coordinates.

$$y = x^2 - 2x$$

$$y = x - 2$$

Problem 5:

Solve the following system. Express your answer(s) as coordinates.

$$y = 2x$$

$$xy = 4$$ NOTE: $$y = \frac{4}{x}$$

Problem 6:

Solve the following system. Express your answer(s) as coordinates.

$$y = x - 3$$

$$x^2 + y^2 = 9$$

SOLUTIONS

You can find detailed solutions below the link for this problem set!

1. $(2\sqrt{3},1)$, $(-2\sqrt{3},1)$ $(3, -2)$, $(-3, -2)$	2. $(0,0)$, $(-2,2)$, $(2,-2)$	3. No solutions
4. $(2, 0)$, $(1, -1)$	5. $(\sqrt{2},2\sqrt{2})$, $(-\sqrt{2},-2\sqrt{2})$	6. $(0, -3)$, $(3, 0)$