

Algebra 3 Assignment # 4

Systems of Equations

Solve each of the following systems of equations using any method please.

$$(1) \begin{aligned} 3x^2 + 2y^2 &= 30 \\ 2x^2 - y^2 &= -1 \end{aligned}$$

$$(2) \begin{aligned} x^2 + y^2 - 4x - 4y &= -4 \\ x^2 + y^2 &= 4 \end{aligned}$$

$$(3) \begin{aligned} x^2 + 3x - 2y &= 2 \\ x - 2y &= 3 \end{aligned}$$

$$(4) \begin{aligned} 2x - 3y &= 1 \\ y &= \sqrt{3x - 5} \end{aligned}$$

$$(5) \begin{aligned} x^2 + y^2 + 2x - 6y &= 0 \\ x^2 + y^2 - 2x - 2y &= 8 \end{aligned}$$

$$(6) \begin{aligned} 4x^2 + 3y^2 - 6x + 5y &= 2 \\ 2x + 3y &= 1 \end{aligned}$$

$$(7) \begin{aligned} x^3 - y^3 &= -19 \\ x - y &= -1 \end{aligned}$$

$$(8) \begin{aligned} x^2 + x - y &= 1 \\ x^2 + y^2 &= 2 \end{aligned}$$

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Answers

(1) $(2, 3), (2, -3), (-2, 3), (-2, -3)$ **(2)** $(0, 2), (2, 0)$

(3) $(-1, -2)$ **(4)** $(2, 1), \left(\frac{23}{4}, \frac{7}{2}\right)$

(5) $(2, 4), (-2, 0)$ **(6)** $\left(0, \frac{1}{3}\right), (2, -1)$

(7) $(2, 3), (-3, -2)$ **(8)** $(1, 1), (-1, -1)$