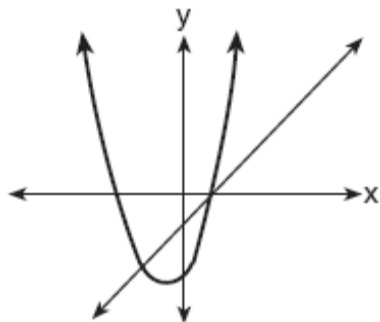


NAME: _____

1. 060507a, P.I. A.G.9

The accompanying diagram shows the graphs of a linear equation and a quadratic equation.



How many solutions are there to this system of equations?

- [A] 0 [B] 1 [C] 3 [D] 2

2. 060018a, P.I. A.A.11

The graphs of the equations $y = x^2 + 4x - 1$ and $y + 3 = x$ are drawn on the same set of axes. At which point do the graphs intersect?

- [A] (1, -2) [B] (-2, 1)
 [C] (1, 4) [D] (-2, -5)

3. 080135a, P.I. A.A.11

Solve the following system of equations algebraically:

$$y = x^2 + 4x - 2$$

$$y = 2x + 1$$

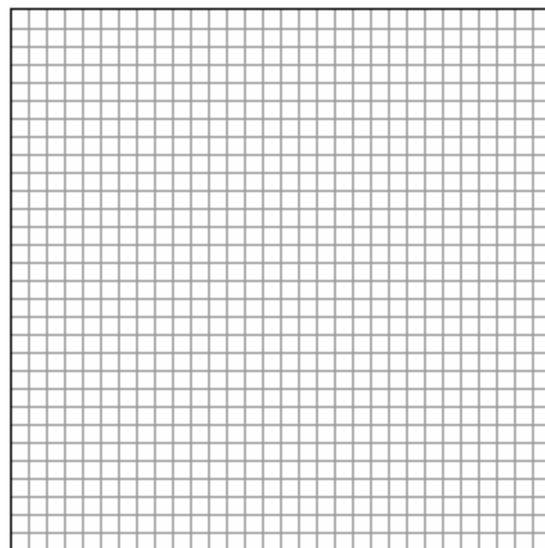
4. 080538a, P.I. A.A.11

Solve the following system of equations:

$$y = x^2 + 4x + 1$$

$$y = 5x + 3$$

[The use of the grid is optional.]

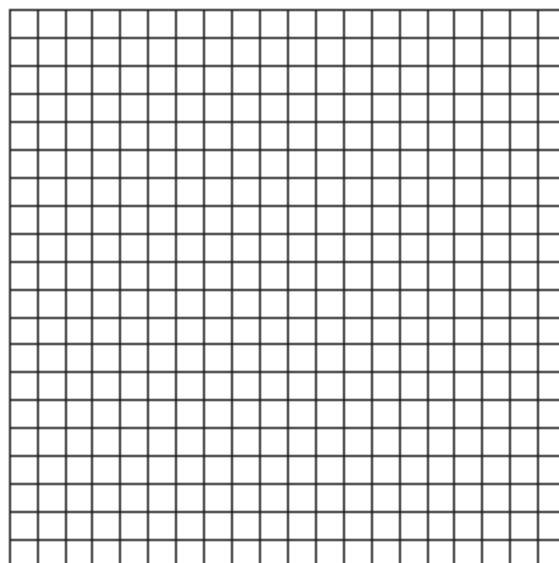


5. 060839a, P.I. A.A.11

Solve the following system of equations algebraically or graphically for x and y :

$$y = x^2 - 4x + 3$$

$$y = x - 1$$



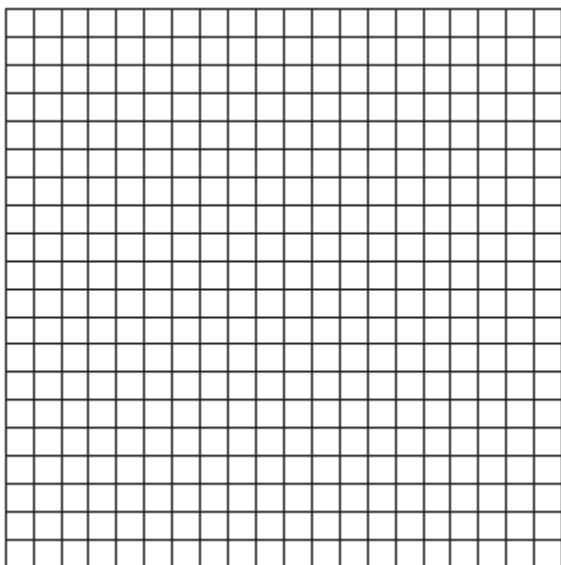
NAME: _____

6. 080839a, P.I. A.A.11

Solve the following system of equations algebraically or graphically for x and y :

$$y = x^2 + 4x + 6$$

$$y = 2x + 6$$

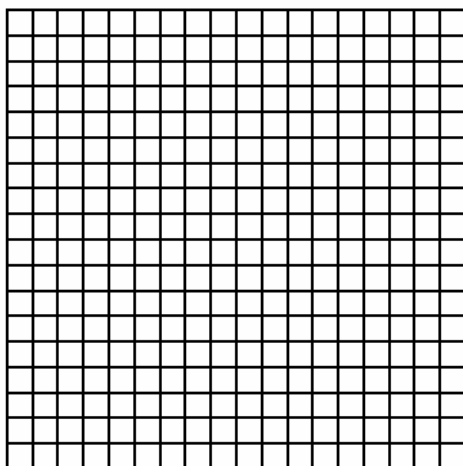


7. 069935a, P.I. A.A.11

Solve the following system of equations algebraically or graphically for x and y :

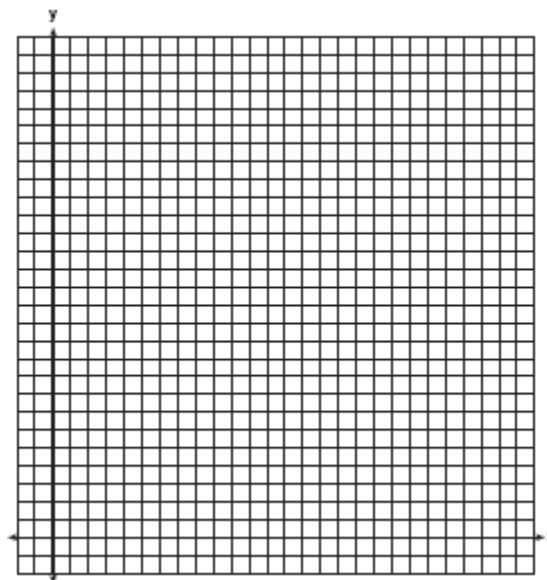
$$y = x^2 + 2x - 1$$

$$y = 3x + 5$$



8. 060235a, P.I. A.G.9

A rocket is launched from the ground and follows a parabolic path represented by the equation $y = -x^2 + 10x$. At the same time, a flare is launched from a height of 10 feet and follows a straight path represented by the equation $y = -x + 10$. Using the accompanying set of axes, graph the equations that represent the paths of the rocket and the flare, and find the coordinates of the point or points where the paths intersect.



[1] D _____

[2] D _____

[4] $(-3,-5)$ and $(1,3)$, and appropriate algebraic work is shown.

[3] Appropriate algebraic work is shown, but $x = -3$ and $x = 1$ are given as the solution.

or [3] Appropriate algebraic work is shown, but only one correct solution is given, such as $(1,3)$.

[2] $(-3,-5)$ and $(1,3)$, but a graphic solution is shown.

or [2] Correct substitution and an algebraic equation set equal to zero are shown, but the result is not factored, such as $x^2 + 2x - 3 = 0$.

[1] Any correct substitution is shown, such as $2x + 1 = x^2 + 3x - 2$.

or [1] $(-3,-5)$ and $(1,3)$, but no algebraic work is shown.

[0] A zero response is completely incorrect, irrelevant, or incoherent or is a correct response that was obtained by an obviously

[3] incorrect procedure.

[4] $(-1,-2)$ and $(2,13)$, and appropriate work is shown, such as an algebraic or graphic solution or trial and error with at least three trials and appropriate checks.

[3] Appropriate work is shown, but one computational or graphing error is made.

or [3] Appropriate work is shown, but only one solution is found or only the x - or the y -values are found.

[2] Appropriate work is shown, but two or more computational or graphing errors are made.

or [2] Appropriate work is shown, but one conceptual error is made.

or [2] The trial-and-error method is used to find the correct solutions, but only two trials and appropriate checks are shown.

or [2] The trial-and-error method is attempted and at least six systematic trials and appropriate checks are shown, but no solution is found.

or [2] Both equations are graphed correctly, but neither ordered pair is identified.

or [2] Only one equation is graphed correctly, but an appropriate solution is found.

or [2] An incorrect quadratic equation of equal difficulty is solved appropriately, and appropriate solutions are found.

[1] Appropriate work is shown, but one conceptual error and one computational or graphing error are made.

or [1] One equation is graphed correctly, but no further correct work is shown.

or [1] An incorrect equation of a lesser degree of difficulty, such as a linear equation, is solved appropriately.

or [1] A correct substitution is made and the system of equations is simplified to a single quadratic equation set equal to zero, but no further correct work is shown.

or [1] $(-1,-2)$ and $(2,13)$, but no work or only one trial with an appropriate check is shown.

[0] $(-1,-2)$ or $(2,13)$, but no work or only one trial with an appropriate check is shown.

or [0] A zero response is completely incorrect, irrelevant, or incoherent or is a

[4] correct response that was obtained by an

obviously incorrect procedure.

[4] (1,0) and (4,3), and appropriate work is shown, such as an algebraic or a graphic solution.

[3] Appropriate work is shown, but one computational or graphing error is made.

or [3] Appropriate algebraic work is shown, but only one solution is found or only the x -values or the y -values are found correctly.

or [3] Both equations are graphed correctly showing two points of intersection, but the coordinates of the solutions are not written or only one is written.

[2] Appropriate work is shown, but two or more computational or graphing errors are made.

or [2] Appropriate work is shown, but one conceptual error is made, such as failing to extend the line or the parabola to intersect at a second point.

or [2] The system of equations is written as $x^2 - 5x + 4 = 0$, but no further correct work is shown.

or [2] The equation $y = x^2 - 4x + 3$ is graphed correctly, but no further correct work is shown.

or [2] (1,0) and (4,3), but a method other than an algebraic or graphic solution is used, such as trial and error with at least three trials and appropriate checks.

[1] Appropriate work is shown, but one conceptual error and one computational or graphing error are made.

or [1] The equation $y = x - 1$ is graphed correctly, but no further correct work is shown.

or [1] A correct substitution results in $x - 1 = x^2 - 4x + 3$, but no further correct work is shown.

or [1] (1,0) and (4,3), but no algebraic or graphic work is shown or the trial-and-error method is used and fewer than three trials and appropriate checks are shown.

or [1] The trial-and-error method is attempted and at least six systematic trials and

[5] appropriate checks are shown, but no solution

is found.

or [1] (1,0) and (4,3), but no work is shown.

[0] (1,0) or (4,3), but no work is shown.

or [0] A zero response is completely incorrect, irrelevant, or incoherent or is a correct response that was obtained by an obviously incorrect procedure.

- [4] (-2,2) and (0,6), and appropriate algebraic or graphic work is shown.
- [3] Appropriate work is shown, but one computational or graphing error is made.
- or [3] Appropriate algebraic work is shown, but only one solution is found correctly or only the x -values or the y -values are found correctly.
- or [3] Both equations are graphed correctly showing two points of intersection, but the coordinates are not stated or are stated incorrectly.
- [2] Appropriate work is shown, but two or more computational or graphing errors are made, but appropriate coordinates are stated.
- or [2] Appropriate work is shown, but one conceptual error is made.
- or [2] The equation $y = x^2 + 4x + 6$ is graphed correctly, but no further correct work is shown.
- or [2] (-2,2) and (0,6), but a method other than an algebraic or graphic solution is used, such as trial and error with at least three trials and appropriate checks.
- [1] Appropriate work is shown, but one conceptual error and one computational or graphing error are made.
- or [1] The system of equations is simplified to a single equation, but no further correct work is shown.
- or [1] The equation $y = 2x + 6$ is graphed correctly, but no further correct work is shown.
- or [1] The trial-and-error method is attempted and at least six systematic trials and appropriate checks are shown, but the solutions are not found.
- or [1] (-2,2) and (0,6), but no algebraic or graphic work is shown or the trial-and-error method is used and fewer than three trials and appropriate checks are shown.
- [0] (-2,2) or (0,6), but no algebraic or graphic work is shown or the trial-and-error method is used and fewer than three trials and appropriate checks are shown.
- or [0] A zero response is completely incorrect, irrelevant, or incoherent or is a
- [6] incorrect, irrelevant, or incoherent or is a

correct response that was obtained by an obviously incorrect procedure.

- [4] (3,14) and (-2,-1) and either an algebraic or a graphic solution is shown.
- [3] An appropriate method is shown, but only one correct ordered pair is identified.
- or [3] An appropriate method is shown, but one computational mistake is made.
- or [3] An appropriate method is shown, but values are given only for x .
- [2] The substitution is correct, but the quadratic produced is not factored correctly.
- or [2] Both equations are graphed correctly, but neither ordered pair is identified.
- [1] Only one equation is graphed correctly.
- or [1] The substitution is incorrect, but it produces a linear equation that is solved correctly.
- or [1] Only the substitution is correct.
- [0] A zero response is completely incorrect, irrelevant, or incoherent or is a correct response that was obtained by an obviously incorrect procedure.
- [7] incorrect procedure.
-
- [4] (10,0) and (1,9), and both graphs are drawn correctly.
- [3] Both graphs are drawn correctly, but only one solution is stated correctly.
- or [3] One graph of equal difficulty is drawn incorrectly, but the solutions are appropriate, based on the graphs.
- [2] (10,0) and (1,9), but the problem is solved algebraically instead of graphically.
- or [2] One graph of equal difficulty is drawn incorrectly, and only one solution is appropriate, based on the graphs.
- [1] Both the parabola and the line are graphed incorrectly, but the solutions are appropriate, based on the graphs.
- or [1] Incorrect solutions result from an algebraic method.
- or [1] (10,0) and (1,9), but no work is shown.
- [0] A zero response is completely incorrect, irrelevant, or incoherent or is a correct response that was obtained by an obviously incorrect procedure.
- [8] incorrect procedure.
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