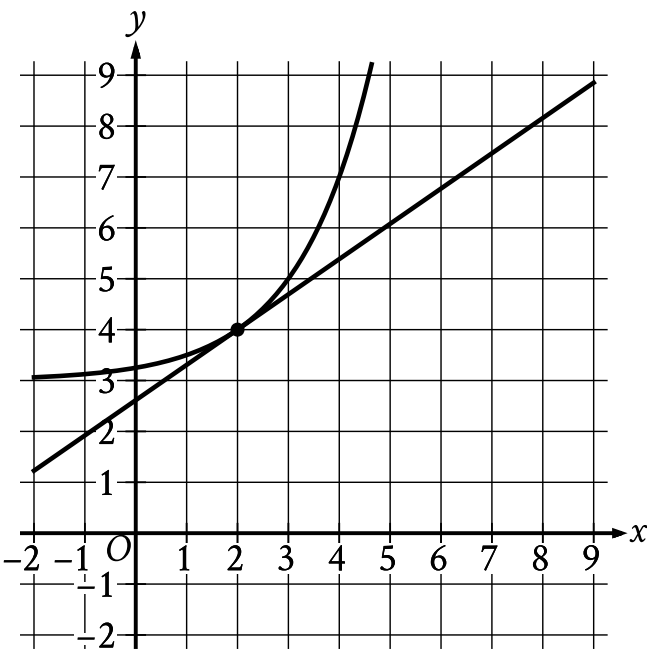


Question ID b37067ef

Assessment	Test	Domain	Skill	Difficulty
PSAT 8/9	Math	Advanced Math	Nonlinear equations in one variable and systems of equations in two variables	Easy

ID: b37067ef



The graph of a system of a linear equation and a nonlinear equation is shown. What is the solution (x, y) to this system?

- A. $(0, 0)$
- B. $(0, 2)$
- C. $(2, 4)$
- D. $(4, 0)$

ID: b37067ef Answer

Correct Answer: C

Rationale

Choice C is correct. The solution to the system of two equations corresponds to the point where the graphs of the equations intersect. The graphs of the linear equation and the nonlinear equation shown intersect at the point $(2, 4)$. Thus, the solution to the system is $(2, 4)$.

Choice A is incorrect and may result from conceptual or calculation errors.

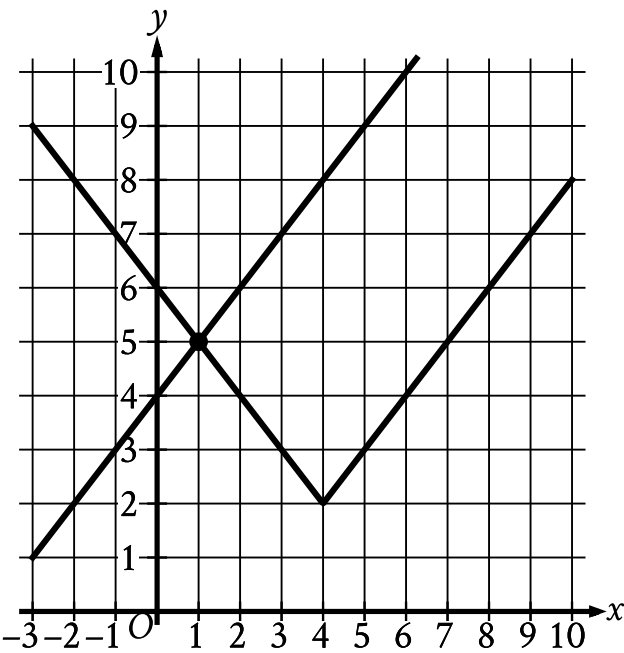
Choice B is incorrect and may result from conceptual or calculation errors.

Choice D is incorrect and may result from conceptual or calculation errors.

Question ID bbb682da

Assessment	Test	Domain	Skill	Difficulty
PSAT 8/9	Math	Advanced Math	Nonlinear equations in one variable and systems of equations in two variables	Easy

ID: bbb682da



The graph of a system of an absolute value function and a linear function is shown. What is the solution (x, y) to this system of two equations?

- A. $(-1, 5)$
- B. $(0, 4)$
- C. $(1, 5)$
- D. $(4, 2)$

ID: bbb682da Answer

Correct Answer: C

Rationale

Choice C is correct. The solution to the system of two equations corresponds to the point where the graphs of the equations intersect. The graphs of the linear function and the absolute value function shown intersect at the point $(1, 5)$. Thus, the solution to the system is $(1, 5)$.

Choice A is incorrect and may result from conceptual or calculation errors.

Choice B is incorrect. This is the y-intercept of the graph of the linear function.

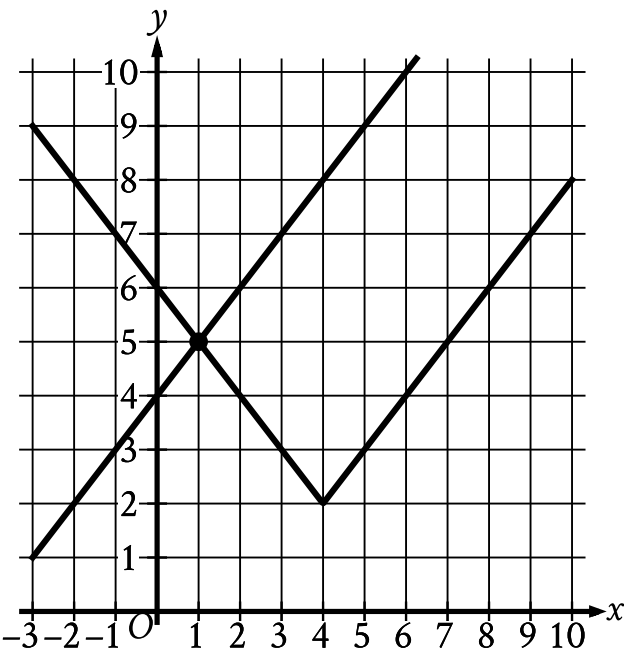
Choice D is incorrect. This is the vertex of the graph of the absolute value function.

Question Difficulty: Easy

Question ID bbb682da

Assessment	Test	Domain	Skill	Difficulty
PSAT 8/9	Math	Advanced Math	Nonlinear equations in one variable and systems of equations in two variables	Easy

ID: bbb682da



The graph of a system of an absolute value function and a linear function is shown. What is the solution (x, y) to this system of two equations?

- A. $(-1, 5)$
- B. $(0, 4)$
- C. $(1, 5)$
- D. $(4, 2)$

ID: bbb682da Answer

Correct Answer: C

Rationale

Choice C is correct. The solution to the system of two equations corresponds to the point where the graphs of the equations intersect. The graphs of the linear function and the absolute value function shown intersect at the point $(1, 5)$. Thus, the solution to the system is $(1, 5)$.

Choice A is incorrect and may result from conceptual or calculation errors.

Choice B is incorrect. This is the y-intercept of the graph of the linear function.

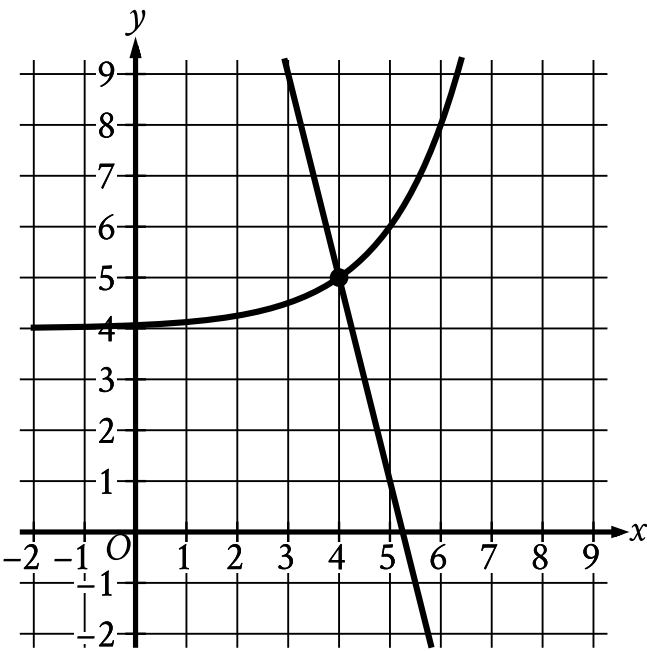
Choice D is incorrect. This is the vertex of the graph of the absolute value function.

Question Difficulty: Easy

Question ID 81a4df1a

Assessment	Test	Domain	Skill	Difficulty
PSAT 8/9	Math	Advanced Math	Nonlinear equations in one variable and systems of equations in two variables	Easy

ID: 81a4df1a



The graph of a system of a linear equation and a nonlinear equation is shown. What is the solution (x, y) to this system?

- A. $(0, 0)$
- B. $(0, 4)$
- C. $(4, 5)$
- D. $(5, 0)$

ID: 81a4df1a Answer

Correct Answer: C

Rationale

Choice C is correct. The solution to the system of two equations corresponds to the point where the graphs of the equations intersect. The graphs of the linear equation and the nonlinear equation shown intersect at the point $(4, 5)$. Thus, the solution to the system is $(4, 5)$.

Choice A is incorrect and may result from conceptual or calculation errors.

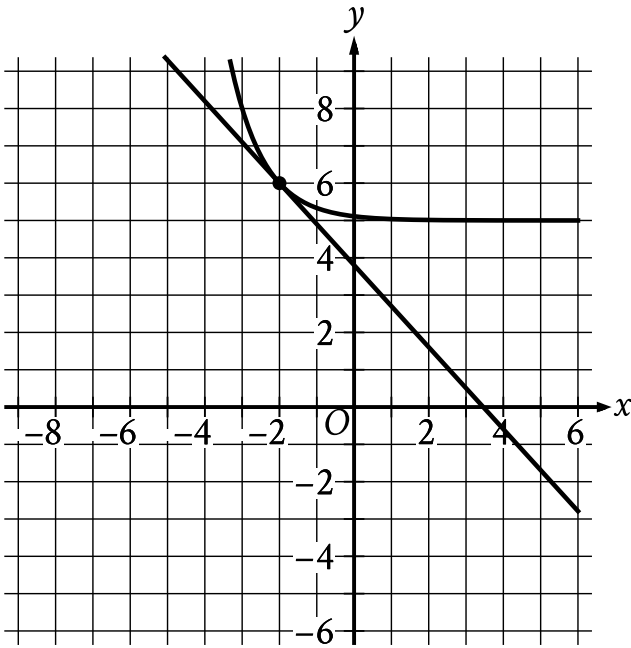
Choice B is incorrect and may result from conceptual or calculation errors.

Choice D is incorrect and may result from conceptual or calculation errors.

Question ID fc3ba39b

Assessment	Test	Domain	Skill	Difficulty
PSAT 8/9	Math	Advanced Math	Nonlinear equations in one variable and systems of equations in two variables	Easy

ID: fc3ba39b



The graph of a system of a linear equation and a nonlinear equation is shown. What is the solution (x, y) to this system?

- A. $(6, 0)$
- B. $(-2, 6)$
- C. $(0, -2)$
- D. $(0, 0)$

ID: fc3ba39b Answer

Correct Answer: B

Rationale

Choice B is correct. The solution (x, y) to the system of two equations corresponds to the point where the graphs of the equations intersect in the xy -plane. The graphs of the linear equation and the nonlinear equation shown intersect at the point $(-2, 6)$. Thus, the solution (x, y) to this system is $(-2, 6)$.

Choice A is incorrect and may result from conceptual or calculation errors.

Choice C is incorrect and may result from conceptual or calculation errors.

Choice D is incorrect and may result from conceptual or calculation errors.

Question ID 26d55e01

Assessment	Test	Domain	Skill	Difficulty
PSAT 8/9	Math	Advanced Math	Nonlinear equations in one variable and systems of equations in two variables	Easy

ID: 26d55e01

$|x + 45| = 48$

What is the positive solution to the given equation?

- A. 3
- B. 48
- C. 93
- D. 96

ID: 26d55e01 Answer

Correct Answer: A

Rationale

Choice A is correct. The given absolute value equation can be rewritten as two linear equations: $x + 45 = 48$ and $-(x + 45) = 48$, or $x + 45 = -48$. Subtracting 45 from both sides of the equation $x + 45 = 48$ yields $x = 3$. Subtracting 45 from both sides of the equation $x + 45 = -48$ yields $x = -93$. Thus, the given equation has two possible solutions, 3 and -93. Therefore, the positive solution to the given equation is 3.

Choice B is incorrect and may result from conceptual or calculation errors.

Choice C is incorrect and may result from conceptual or calculation errors.

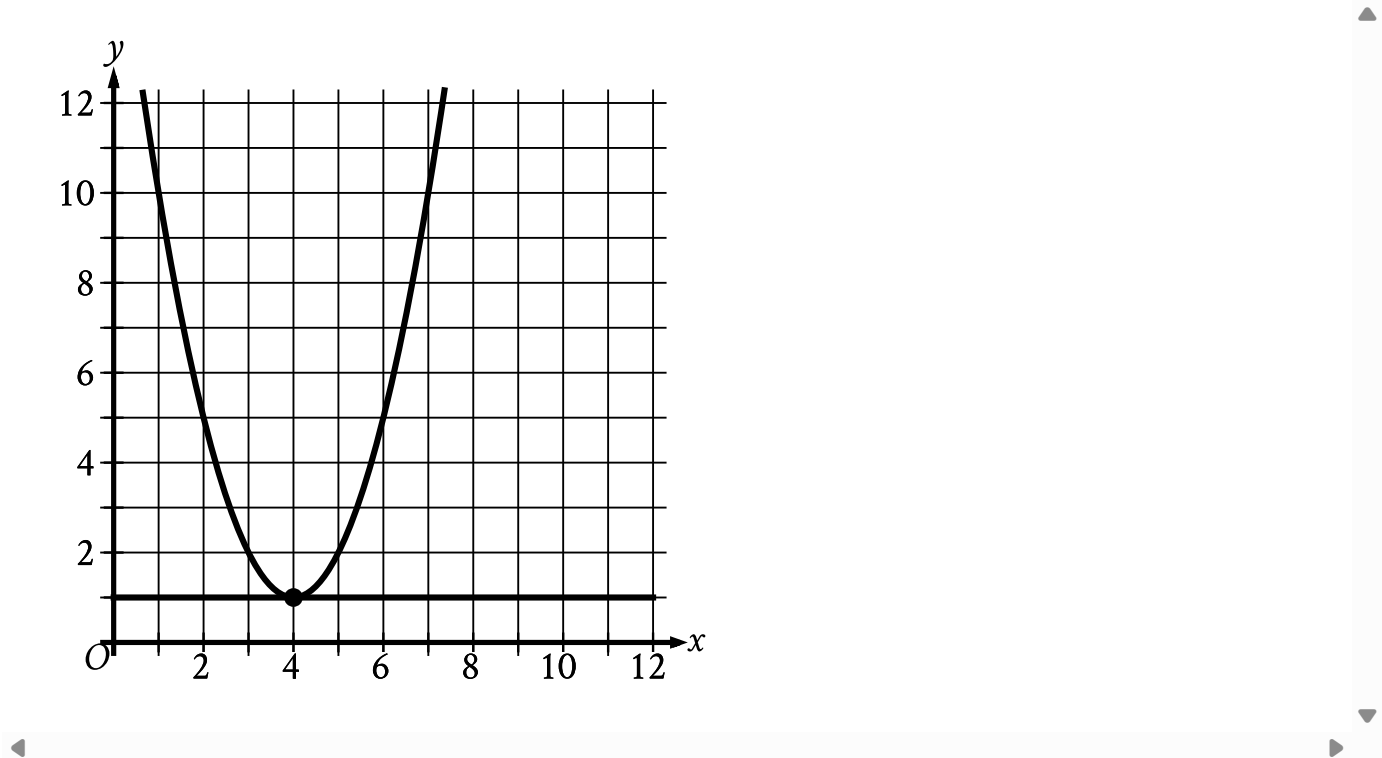
Choice D is incorrect and may result from conceptual or calculation errors.

Question Difficulty: Easy

Question ID 9fc154b1

Assessment	Test	Domain	Skill	Difficulty
PSAT 8/9	Math	Advanced Math	Nonlinear equations in one variable and systems of equations in two variables	Easy

ID: 9fc154b1



The graph of a system of a linear and a quadratic equation is shown. What is the solution (x, y) to this system?

- A. $(0, 0)$
- B. $(-4, 1)$
- C. $(4, -1)$
- D. $(4, 1)$

ID: 9fc154b1 Answer

Correct Answer: D

Rationale

Choice D is correct. The solution to the system corresponds to the point where the graphs of the equations intersect. The graphs of the linear equation and the quadratic equation shown intersect at the point $(4, 1)$. Therefore, $(4, 1)$ is the solution to this system.

Choice A is incorrect and may result from conceptual or calculation errors.

Choice B is incorrect and may result from conceptual or calculation errors.

Choice C is incorrect and may result from conceptual or calculation errors.

Question ID 70a44792

Assessment	Test	Domain	Skill	Difficulty
PSAT 8/9	Math	Advanced Math	Nonlinear equations in one variable and systems of equations in two variables	Easy

ID: 70a44792

$|p| + 61 = 65$

Which value is a solution to the given equation?

- A. $\frac{65}{61}$
- B. 4
- C. 126
- D. 130

ID: 70a44792 Answer

Correct Answer: B

Rationale

Choice B is correct. Subtracting 61 from each side of the given equation yields $|p| = 4$. By the definition of absolute value, if $|p| = 4$, then $p = 4$ or $p = -4$. Of the given choices, 4 is a solution to the given equation.

Choice A is incorrect. This is the quotient, not the difference, of 65 and 61.

Choice C is incorrect. This is the sum, not the difference, of 65 and 61.

Choice D is incorrect and may result from conceptual or calculation errors.

Question Difficulty: Easy