

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Advanced Math	Nonlinear equations in one variable and systems of equations in two variables	■ □ □

ID: 3c95093c

1.1

$$6x - 9y > 12$$

Which of the following inequalities is equivalent to the inequality above?

A. $x - y > 2$

~~B. $2x - 3y > 4$~~

C. $3x - 2y > 4$

D. $3y - 2x > 2$

Desmos no

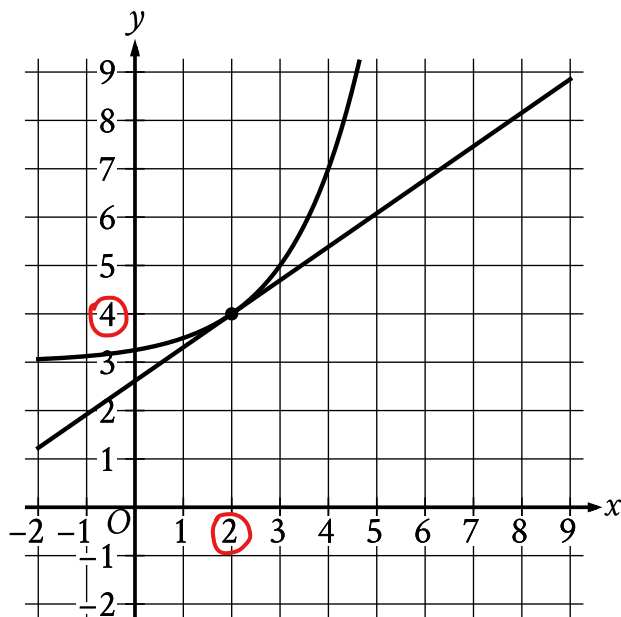
$$\div 3 \rightarrow 2x - 3y > 4 //$$

Question ID 4ca30186

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ID: 4ca30186

1.2



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. $(4, 0)$

Question ID 3de7a7d7

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ID: 3de7a7d7

1.3

Which of the following is a solution to the equation $2x^2 - 4 = x^2$?

- A. 1
- ~~B. 2~~
- C. 3
- D. 4

แทนค่า หรือ Desmos

$$x^2 = 4$$
$$x = 2, -2$$

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Question ID 70f98ab4

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ID: 70f98ab4

1.4

$$q - 29r = s$$

The given equation relates the positive numbers q , r , and s . Which equation correctly expresses q in terms of r and s ?

A. $q = s - 29r$

~~B. $q = s + 29r$~~

C. $q = 29rs$

D. $q = -\frac{s}{29r}$

$$q = s + 29r //$$

Question ID 568aaf27

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ID: 568aaf27

1.5

$$x + y = 12$$

$$y = x^2$$

If (x, y) is a solution to the system of equations above, which of the following is a possible value of x ?

A. 0

B. 1

C. 2

~~D. 3~~

Desmos $\rightarrow$ $(3, 9)$, $(-4, 16)$
// //

Question ID b76a2815

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ID: b76a2815

1.6

$$P = \frac{W}{t}$$

The power P produced by a machine is represented by the equation above, where W is the work performed during an amount of time t . Which of the following correctly expresses W in terms of P and t ?

~~A.~~ $W = Pt$

B. $W = \frac{P}{t}$

C. $W = \frac{t}{P}$

D. $W = P + t$

$$W = Pt$$

Question ID c7789423

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ID: c7789423

1.7

$$|x - 2| = 9$$

What is one possible solution to the given equation?

Desmos $x = 11, -7$

$$\begin{array}{l|l} x - 2 = 9 & x - 2 = -9 \\ x = 11 & x = -7 \end{array}$$

Question ID eb268057

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ID: eb268057

1.8

$x^2 = 64$

Which of the following values of x satisfies the given equation?

~~A. -8~~

B. 4

C. 32

D. 128

~~x~~ = 8, -8

Question ID 98f735f2

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ID: 98f735f2

1.9

The total revenue from sales of a product can be calculated using the formula $T = PQ$, where T is the total revenue, P is the price of the product, and Q is the quantity of the product sold. Which of the following equations gives the quantity of product sold in terms of P and T ?

A. $Q = \frac{P}{T}$

~~B. $Q = \frac{T}{P}$~~

C. $Q = PT$

D. $Q = T - P$

$$Q = \frac{T}{P} //$$

Question ID fcb78856

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ID: fcb78856

1.10

$$b = 42cf$$

The given equation relates the positive numbers b , c , and f . Which equation correctly expresses c in terms of b and f ?

~~A. $c = \frac{b}{42f}$~~

B. $c = \frac{b-42}{f}$

C. $c = 42bf$

D. $c = 42 - b - f$

$$c = \frac{b}{42f} //$$

Question ID 4236c5a3

Assessment	Test	Domain	Skill	Difficulty
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ID: 4236c5a3

1.11

If $(x+5)^2 = 4$, which of the following is a possible value of x ?

- A. 1
- B. -1
- C. -2
- ☒ D. -3

$$\begin{array}{l}
 \text{Desmos} \rightarrow x = -3, -7 \\
 \hline
 |x+5| = 2 \quad \text{Take } \sqrt{} \\
 x+5 = 2 \quad | \quad x+5 = -2 \\
 x = -3 \quad | \quad x = -7 \\
 \quad \quad \quad // \quad \quad \quad //
 \end{array}$$

Question ID f11ffa93

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ID: f11ffa93

1.12

$$\sqrt{x+4} = 11$$

What value of x satisfies the equation above?

$$\begin{aligned} \text{Desmos} &\rightarrow x = 117 // \\ \hline x + 4 &= 121 \quad \text{Power 2} \\ x &= 117 // \end{aligned}$$

Question ID 5639dd1a

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ID: 5639dd1a

1.13

$x^2 = (22)(22)$ What is the positive solution to the given equation?

$$x^2 = 22^2$$
$$|x| = 22$$
$$x = 22, -22$$
$$//$$

Question ID c1964c11

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ID: c1964c11

1.14

$p + 34 = q + r$

The given equation relates the variables p , q , and r . Which equation correctly expresses p in terms of q and r ?

- A. $p = q + r + 34$
- ~~B. $p = q + r - 34$~~
- C. $p = -q - r + 34$
- D. $p = -q - r - 34$

$p = q + r - 34 //$