#1

ID: 3c95093c

$6x - 9y > 12$

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

A) $x - y > 2$

B) $2x - 3y > 4$

C) $3x - 2y > 4$

D) $3y - 2x > 2$

#2

ID: 1e003284

$x = 49$

$y = \sqrt{x} + 9$

The graphs of the given equations intersect at the point (x, y) in the *xy*-plane. What is the value of y?

A) 16

B) 40

C) 81

D) 130

#3

ID: c6a26e14

$(x + 45) = 48$

What is the positive solution to the given equation?

A) 3

B) 48

C) 93

D) 96

#4

ID: ad03127d

$6r = 7s + t$

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

A) $s = 42r - t$

B) $s = 7(6r - t)$

C) $s = \frac{6}{7}r - t$

D) $s = \frac{6r - t}{7}$

#5

ID: 84e5e36c

$$y = 76$$
$$y = x^2 - 5$$

The graphs of the given equations in the *xy*-plane intersect at the point (x, y). What is a possible value of x?

A) $-\frac{76}{5}$

B) -9

C) 5

D) 76

#6

ID: 4ca30186

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) $(4, 0)$

#7

ID: 3de7a7d7

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

A) 1

B) 2

C) 3

D) 4

#8

ID: 70f98ab4

$$q - 29r = s$$

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) $q = -\frac{s}{29r}$

#9

ID: 88867d37

$$(x + 2)(x - 5)(x + 9) = 0$$

What is a positive solution to the given equation?

A) 3

B) 4

C) 5

D) 18

#10

ID: 7cb3a8ee

$$(x - 5) = 10$$

What is one possible solution to the given equation?

#11

ID: 0bebc08c

$$x = 3$$

$$y = (15 - x)^2$$

A solution to the given system of equations is (x, y). What is the value of xy?

A) 432

B) 54

C) 45

D) 18

#12

ID: c1964c11

$$p + 34 = q + r$$

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) $p = -q - r - 34$

#13

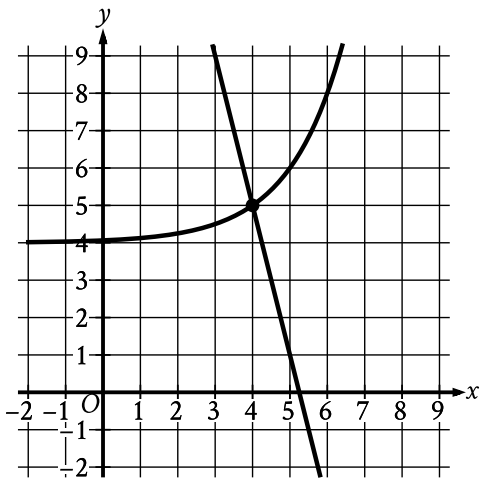
ID: 5639dd1a

$$x^2 = (22)(22)$$

What is the positive solution to the given equation?

#14

ID: 3f8d5876



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) $(5, 0)$

#15

ID: b8c4a1cd

$$8j = k + 15m$$

The given equation relates the distinct positive numbers j, k, and m. Which equation correctly expresses j in terms of k and m?

A) $j = \frac{k}{8} + 15m$

B) $j = k + \frac{15m}{8}$

C) $j = 8(k + 15m)$

D) $j = \frac{k + 15m}{8}$

#16

ID: 568aaf27

$$x + y = 12$$
$$y = x^2$$

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

#17

ID: 7399c3b0

$$k^2 - 53 = 91$$

What is the positive solution to the given equation?

A) 144

B) 72

C) 38

D) 12

#18

ID: b76a2815

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

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) $W = P + t$

#19

ID: a67a439d

$$x + 7 = 10$$

$$(x + 7)^2 = y$$

Which ordered pair (x, y) is a solution to the given system of equations?

A) $(3, 100)$

B) $(3, 3)$

C) $(3, 10)$

D) $(3, 70)$

#20

ID: ce940f80

$$\frac{x^2}{25} = 36$$

What is a solution to the given equation?

A) 6

B) 30

C) 450

D) 900

#21

ID: 5c7d5744

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) $(0, 0)$

#22

ID: c7789423

$$(x - 2) = 9$$

What is one possible solution to the given equation?

#23

ID: c8bf5313

$$x = 8$$

$$y = x^2 + 8$$

The graphs of the equations in the given system of equations intersect at the point (x, y) in the *xy*-plane. What is the value of y?

A) 8

B) 24

C) 64

D) 72

#24

ID: eb268057

$$x^2 = 64$$

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

A) -8

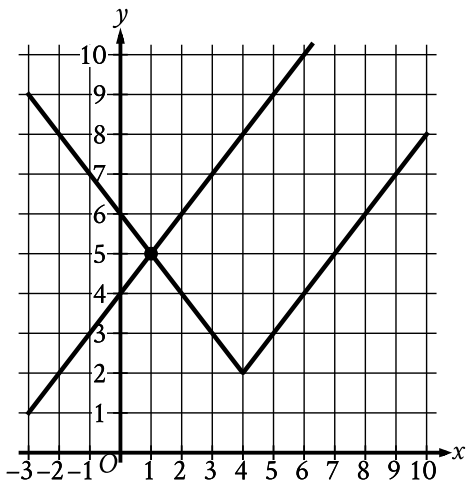
B) 4

C) 32

D) 128

#25

ID: dd3a910a



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) $(4, 2)$

#26

ID: 98f735f2

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) $Q = T - P$

#27

ID: fcb78856

$$b = 42cf$$

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) $c = 42 - b - f$

#28

ID: bf704c34

$$c - 7 = 25p + k$$

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

A) $c = 25p + k + 7$

B) $c = 25p + k - 7$

C) $c = 7(25p + k)$

D) $c = \frac{25p + k}{7}$

#29

ID: 4236c5a3

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

A) 1

B) -1

C) -2

D) -3

#30

ID: f11ffa93

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

What value of x satisfies the equation above?