Question ID 696e199b

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

ID: 696e199b

$$\frac{(x+9)(x-9)}{x+9} = 7$$

What is the solution to the given equation?

A. 7

B. 9

C. 16

D. 63

Question ID 6fbfbe0d

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

ID: 6fbfbe0d

$$x = 8a(b + 9)$$

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

A. $a = \frac{x}{8} - (b + 9)$

B. $a = \frac{x}{8(b+9)}$

C. $a = \frac{8(b+9)}{x}$

D. $a = 8x(b + 9)$

Question ID 5bfaf155

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

ID: 5bfaf155

$$p = 20 + \frac{16}{n}$$

The given equation relates the numbers p and n, where n is not equal to 0 and $p > 20$. Which equation correctly expresses n in terms of p?

A. $n = \frac{p-20}{16}$

B. $n = \frac{p}{16} + 20$

C. $n = \frac{p}{16} - 20$

D. $n = \frac{16}{p-20}$

Question ID 408d3547

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

ID: 408d3547

$$(5x + 4)(2x - 5) = 0$$

Which of the following is a solution to the given equation?

A. $-\frac{5}{2}$

B. $-\frac{5}{4}$

C. $-\frac{4}{5}$

D. $-\frac{2}{5}$

Question ID 1c7b6b0a

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

ID: 1c7b6b0a

$$p = \frac{k}{4j+9}$$

The given equation relates the distinct positive numbers p, k, and j. Which equation correctly expresses $4j + 9$ in terms of p and k?

A. $4j + 9 = \frac{k}{p}$

B. $4j + 9 = kp$

C. $4j + 9 = k - p$

D. $4j + 9 = \frac{p}{k}$

Question ID b63f5259

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

ID: b63f5259

$$x^2 - 5x - 24 = 0$$

What is the sum of the solutions to the given equation?

Question ID 753ebb31

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

ID: 753ebb31

$$5x^2 - 37x - 24 = 0$$

What is the positive solution to the given equation?

A. $\frac{3}{5}$

B. 3

C. 8

D. 37

Question ID e9e5f5d5

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

ID: e9e5f5d5

$$7x^2 - 20x - 32 = 0$$

What is the positive solution to the given equation?

Question ID c33339b0

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

ID: c33339b0

The equation $12t + b = c$ relates the variables t, b, and c. Which of the following correctly expresses the value of $c - b$ in terms of t?

A. $\frac{t}{12}$

B. t

C. $t + \frac{1}{12}$

D. $12t$

Question ID 247b1034

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

ID: 247b1034

$$y = 4x$$
$$y = x^2 - 12$$

A solution to the given system of equations is (x, y), where $x > 0$. What is the value of x?

Question ID 7b2d91a2

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

ID: 7b2d91a2

$$\frac{-54}{w} = 6$$

What is the solution to the given equation?

Question ID bc0575e7

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

ID: bc0575e7

$$w^2 + 12w - 40 = 0$$

Which of the following is a solution to the given equation?

A. $6 - 2\sqrt{19}$

B. $2\sqrt{19}$

C. $\sqrt{19}$

D. $-6 + 2\sqrt{19}$

Question ID cb03e399

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

ID: cb03e399

$$y = (x - 2)(x + 4)$$
$$y = 6x - 12$$

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

A. $(0, 2)$

B. $(-4, 2)$

C. $(2, 0)$

D. $(2, -4)$

Question ID 4f36c8ca

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

ID: 4f36c8ca

If $|4x - 4| = 112$, what is the positive value of $x - 1$?

Question ID 5ee494b6

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

ID: 5ee494b6

$$x^2 + y + 10 = 10$$
$$8x + 16 - y = 0$$

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

A. -16

B. -4

C. 2

D. 8

Question ID 430e5f54

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

ID: 430e5f54

$$\frac{1}{7b} = \frac{11x}{y}$$

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

A. $x = \frac{7by}{11}$

B. $x = y - 77b$

C. $x = \frac{y}{77b}$

D. $x = 77by$

Question ID 22a0e553

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

ID: 22a0e553

$$v = -\frac{w}{150x}$$

The given equation relates the distinct positive numbers v, w, and x. Which equation correctly expresses w in terms of v and x?

A. $w = -150vx$

B. $w = -\frac{150v}{x}$

C. $w = -\frac{x}{150v}$

D. $w = v + 150x$

Question ID 036e585d

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

ID: 036e585d

$$3x(x-4)(x+5)=0$$

What is one of the solutions to the given equation?

A. -4

B. 0

C. 3

D. 5

Question ID 9658700e

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

ID: 9658700e

$$(d-30)(d+30)-7=-7$$

What is a solution to the given equation?

Question ID 92b3b634

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

ID: 92b3b634

$$z^2 + 10z - 24 = 0$$

What is one of the solutions to the given equation?

Question ID e669571f

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

ID: e669571f

$$P = N(19 - C)$$

The given equation relates the positive numbers P, N, and C. Which equation correctly expresses C in terms of P and N?

A. $C = \frac{19+P}{N}$

B. $C = \frac{19-P}{N}$

C. $C = 19 + \frac{P}{N}$

D. $C = 19 - \frac{P}{N}$

Question ID e0cc40e8

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

ID: e0cc40e8

$$38x^2 = 38(9)$$

What is the negative solution to the given equation?

Question ID 0f587cc6

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

ID: 0f587cc6

$$-4x^2 - 7x = -36$$

What is the positive solution to the given equation?

A. $\frac{7}{4}$

B. $\frac{9}{4}$

C. 4

D. 7

Question ID c7528626

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

ID: c7528626

If $\frac{42}{x} = 7x$, what is the value of $7x^2$?

A. 6

B. 7

C. 42

D. 294

Question ID 28a0ca32

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

ID: 28a0ca32

$$14j + 5k = m$$

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

A. $k = \frac{m-14j}{5}$

B. $k = \frac{1}{5}m - 14j$

C. $k = \frac{14j-m}{5}$

D. $k = 5m - 14j$

Question ID f20cc110

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

ID: f20cc110

$$\frac{55}{x+6} = x$$

What is the positive solution to the given equation?

Question ID baa012ad

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

ID: baa012ad

$$7m = 5(n + p)$$

The given equation relates the positive numbers m, n, and p. Which equation correctly gives n in terms of m and p?

A. $n = \frac{5p}{7m}$

B. $n = \frac{7m}{5} - p$

C. $n = 5(7m) + p$

D. $n = 7m - 5 - p$

Question ID eab050e1

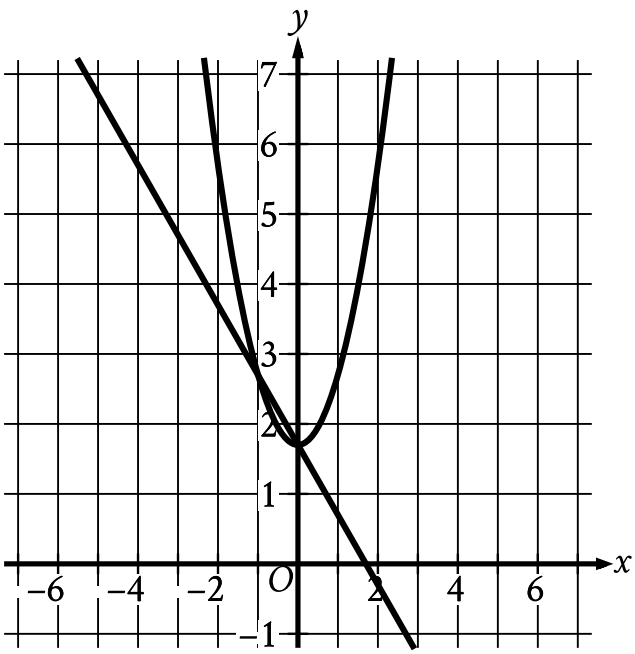
Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Advanced Math	Nonlinear equations in one variable and systems of equations in two variables	Medium

ID: eab050e1

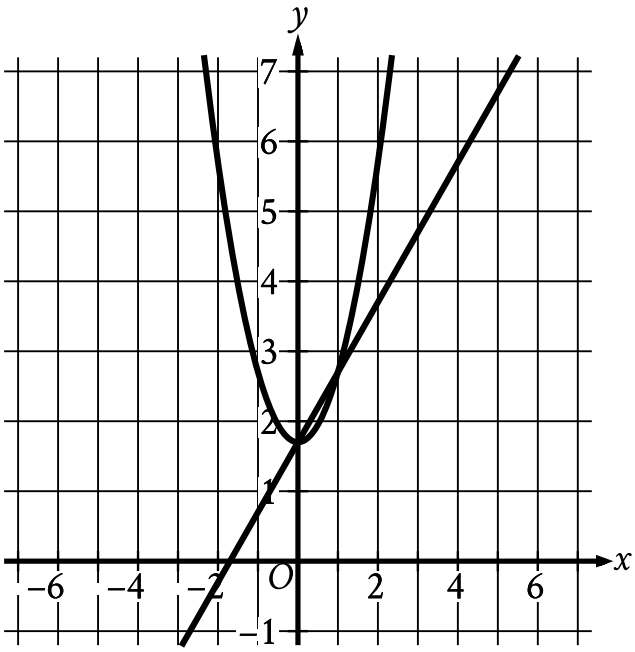
$$y = x^2 + 1.7$$
$$y = 1.7 - x$$

Which graph represents the given system of equations?

A.



B.



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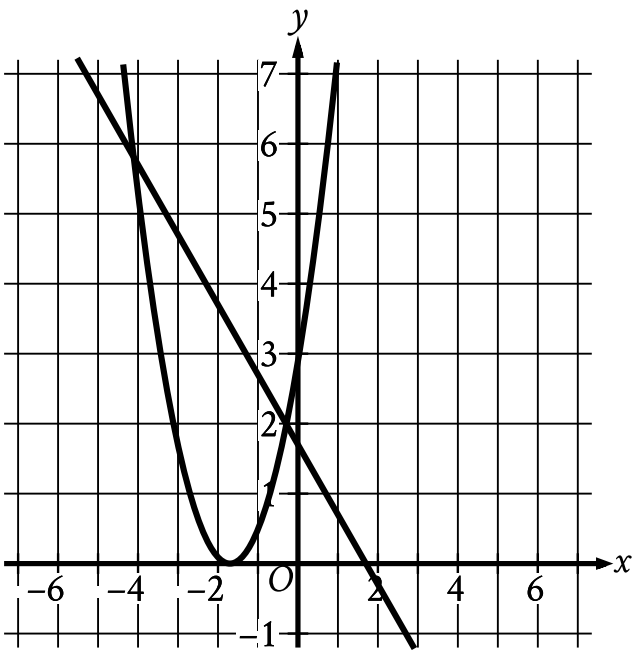
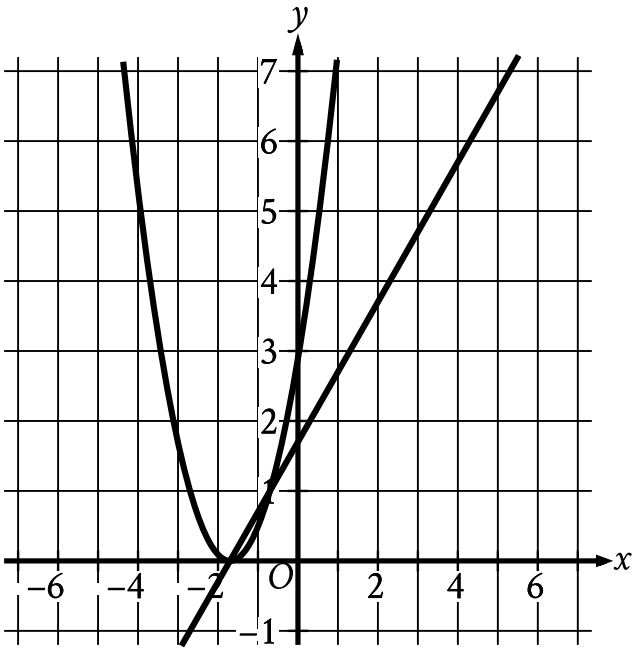


D.



Question ID c6e98bfc

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

ID: c6e98bfc

$$b - 72 = \frac{x}{y}$$

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

A. $x = \frac{b-72}{y}$

B. $x = by - 72$

C. $x = \frac{by-72}{y}$

D. $x = by - 72y$

Question ID 0106a3a1

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

ID: 0106a3a1

$$x^2 = -841$$

How many distinct real solutions does the given equation have?

A. Exactly one

B. Exactly two

C. Infinitely many

D. Zero

Question ID 8f89f154

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

ID: 8f89f154

If $4\sqrt{2x} = 16$, what is the value of $6x$?

A. 24

B. 48

C. 72

D. 96

Question ID 42c3e1dd

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

ID: 42c3e1dd

$$y = x^2 + 14x + 48$$
$$x + 8 = 11$$

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

Question ID 0daafba7

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

ID: 0daafba7

$$x^2 - 12x + 27 = 0$$

How many distinct real solutions does the given equation have?

A. Exactly two

B. Exactly one

C. Zero

D. Infinitely many