

## Algebra II

## Released Test Questions

**1** What is the complete solution to the equation  $|3 - 6x| = 15$ ?

- A  $x = 2; x = 3$
- B  $x = -2; x = 3$
- C  $x = 2; x = -3$
- D  $x = -2; x = -3$

CST00507

**2** What are the possible values of  $x$  in  $|12 - 4x| = 2$ ?

- A  $x = -2.50$  or  $x = -3.50$
- B  $-3.50 < x < -2.50$
- C  $3.5 > x > 2.5$
- D  $x = 2.50$  or  $x = 3.50$

CST20085

**3** For a wedding, Shereda bought several dozen roses and several dozen carnations. The roses cost \$15 per dozen, and the carnations cost \$8 per dozen. Shereda bought a total of 17 dozen flowers and paid a total of \$192. How many roses did she buy?

- A 6 dozen
- B 7 dozen
- C 8 dozen
- D 9 dozen

CST00099

**4** What is the solution to the system of equations shown below?

$$\begin{cases} 2x - y + 3z = 8 \\ x - 6y - z = 0 \\ -6x + 3y - 9z = 24 \end{cases}$$

- A  $(0, 4, 4)$
- B  $\left(1, 4, \frac{10}{3}\right)$
- C no solution
- D infinitely many solutions

CST00203

**5** A restaurant manager bought 20 packages of bagels. Some packages contained 6 bagels each, and the rest contained 12 bagels each. There were 168 bagels in all. How many packages of 12 bagels did the manager buy?

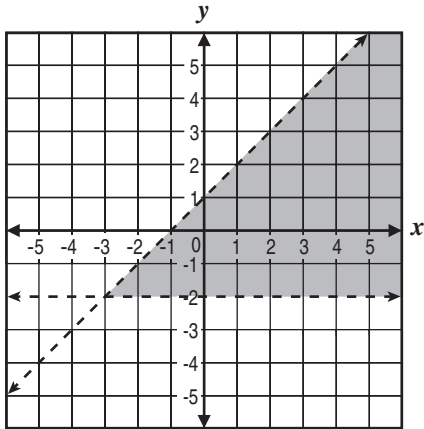
- A 6
- B 8
- C 9
- D 12

CST00491

Released Test Questions

Algebra II

- 6 What system of inequalities *best* represents the graph shown below?



- A  $y > -2$  and  $y > x + 1$
- B  $y > -2$  and  $y < x + 1$
- C  $y < -2$  and  $y > x + 1$
- D  $y < -2$  and  $y < x + 1$

CST00500

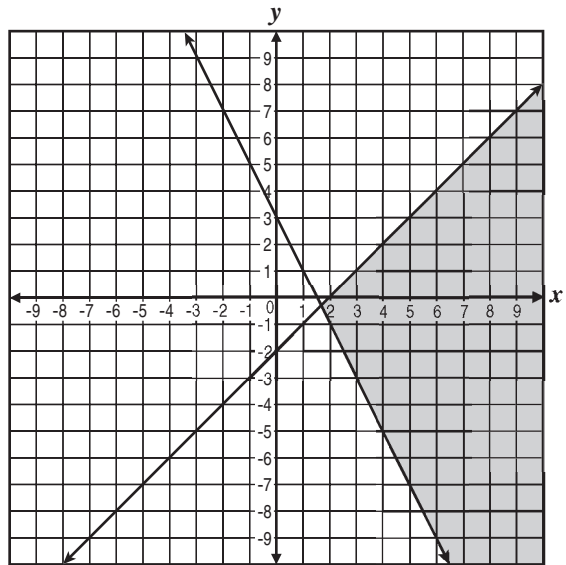
- 7 Which point lies in the solution set for the

$$\text{system } \begin{cases} 2y - x \geq -6 \\ 2y - 3x < -6 \end{cases} ?$$

- A  $(-4, -1)$
- B  $(3, 1)$
- C  $(0, -3)$
- D  $(4, 3)$

CST10059

- 8 Which system of linear inequalities is represented by this graph?



- A  $\begin{cases} y \geq \frac{1}{2}x + 3 \\ y \geq x - 2 \end{cases}$
- B  $\begin{cases} y \geq 2x + 3 \\ y \leq x - 2 \end{cases}$
- C  $\begin{cases} 2x - y \geq 3 \\ x + y \leq 2 \end{cases}$
- D  $\begin{cases} 2x + y \geq 3 \\ x - y \geq 2 \end{cases}$

CST20079

## Algebra II

## Released Test Questions

- 9 What is the solution to the following system of equations?

$$\begin{cases} 2x - 3y = 4 \\ 4x + y = -6 \end{cases}$$

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

CST40078

- 10  $2x + 7 \overline{) 2x^4 + 21x^3 + 35x^2 - 37x + 46}$

- A  $x^3 + 7x^2 - 7x + 6 - \frac{4}{2x + 7}$   
 B  $2x^3 + 14x^2 - 14x + 12 - \frac{4}{2x + 7}$   
 C  $x^3 - 7x^2 + 7x - 6 + \frac{4}{2x + 7}$   
 D  $x^3 + 7x^2 - 7x + 6 + \frac{4}{2x + 7}$

CST00109

- 11 Which polynomial represents  $(3x^2 + x - 4)(2x - 5)$ ?

- A  $6x^3 - 13x^2 - 13x - 20$   
 B  $6x^3 - 13x^2 - 13x + 20$   
 C  $6x^3 + 13x^2 + 3x - 20$   
 D  $6x^3 + 13x^2 + 3x + 20$

CST10024

- 12  $(-2x^2 + 6x + 1) - 2(4x^2 - 3x + 1) =$

- A  $6x^2 - 1$   
 B  $-10x^2 - 1$   
 C  $6x^2 + 12x - 1$   
 D  $-10x^2 + 12x - 1$

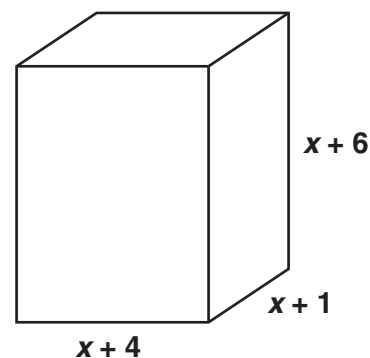
CST00233

- 13 Which expression is equivalent to  $(6y^2 - 2)(6y + 2)$ ?

- A  $36y^2 - 4$   
 B  $36y^3 - 4$   
 C  $36y^2 + 12y^2 + 12y - 4$   
 D  $36y^3 + 12y^2 - 12y - 4$

CST20008

- 14 What is the volume of the figure below?



- A  $x^3 + 10x^2 + 34x + 24$   
 B  $x^3 + 11x^2 + 34x + 24$   
 C  $x^3 + 10x^2 + 24x + 24$   
 D  $x^3 + 11x^2 + 24x + 24$

CST10285

## Released Test Questions

## Algebra II

15 What is  $(5x^3 - 2x)(3x^2 + x - 8)$ ?

- A  $5x^3 + 3x^2 - x - 8$   
 B  $15x^5 - x^4 - 42x^3 + 16x$   
 C  $15x^5 + 5x^4 - 46x^3 - 2x^2 + 16x$   
 D  $15x^6 - 35x^3 - 6x^2 + 14x$

CST20294

16  $8a^3 + c^3 =$

- A  $(2a + c)(2a + c)(2a + c)$   
 B  $(2a - c)(4a^2 + 2ac + c^2)$   
 C  $(2a - c)(4a^2 + 4ac + c^2)$   
 D  $(2a + c)(4a^2 - 2ac + c^2)$

CST00118

19 Which expression shows the complete factorization of  $12x^2 - 147$ ?

- A  $(3x - 7)(4x + 2)$   
 B  $(4x - 21)(3x + 7)$   
 C  $12(x - 7)(x + 7)$   
 D  $3(2x - 7)(2x + 7)$

CST20117

20  $25x^2 - 40xy + 16y^2 =$

- A  $(5x - 4y)^2$   
 B  $(5x + 10 - 4y)^3$   
 C  $5(5x - 4y)^2$   
 D  $5(4xy)^2$

CST20068

17 The total area of a rectangle is  $4x^4 - 9y^2$ . Which factors could represent the length times width?

- A  $(2x^2 - 3y)(2x^2 + 3y)$   
 B  $(2x^2 + 3y)(2x^2 + 3y)$   
 C  $(2x - 3y)(2x - 3y)$   
 D  $(2x + 3y)(2x - 3y)$

CST10028

18 Which product of factors is equivalent to  $(x + 1)^2 - y^2$ ?

- A  $(x + 1 + y)^2$   
 B  $(x + 1 - y)^2$   
 C  $(x - 1 + y)(x - 1 - y)$   
 D  $(x + 1 + y)(x + 1 - y)$

CST10030