19 **The chart below shows an expression evaluated for four different values of x.**

x	$x^2 + x + 5$
1	7
2	11
6	47
7	61

Josiah concluded that for all positive values of x, $x^2 + x + 5$ produces a prime number. Which value of x serves as a counterexample to prove Josiah's conclusion false?

A 5

B 11

C 16

D 21

CSA20027

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20 **John's solution to an equation is shown below.**

Given: $x^2 + 5x + 6 = 0$

Step 1: $(x + 2)(x + 3) = 0$

Step 2: $x + 2 = 0$ **or** $x + 3 = 0$

Step 3: $x = -2$ **or** $x = -3$

Which property of real numbers did John use for Step 2?

A multiplication property of equality

B zero product property of multiplication

C commutative property of multiplication

D distributive property of multiplication over addition

CSA20034

21 **Stan's solution to an equation is shown below.**

Given: $n + 8(n + 20) = 110$

Step 1: $n + 8n + 20 = 110$

Step 2: $9n + 20 = 110$

Step 3: $9n = 110 - 20$

Step 4: $9n = 90$

Step 5: $\frac{9n}{9} = \frac{90}{9}$

Step 6: $n = 10$

Which statement about Stan's solution is true?

A Stan's solution is correct.

B Stan made a mistake in Step 1.

C Stan made a mistake in Step 3.

D Stan made a mistake in Step 5.

CSA20035

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22 **When is this statement true?**

> The opposite of a number is less than the original number.

A This statement is never true.

B This statement is always true.

C This statement is true for positive numbers.

D This statement is true for negative numbers.

CSA20147

23 **What is the *y*-intercept of the graph of $4x + 2y = 12$?**

A -4

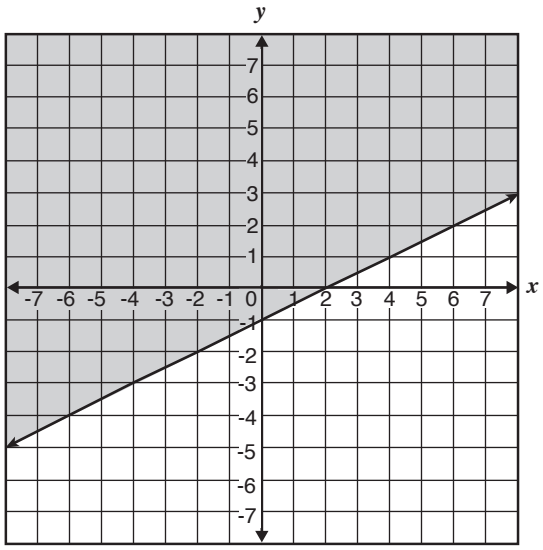
B -2

C 6

D 12

CSA00239

24 **Which inequality is shown on the graph below?**



A $y < \frac{1}{2}x - 1$

B $y \leq \frac{1}{2}x - 1$

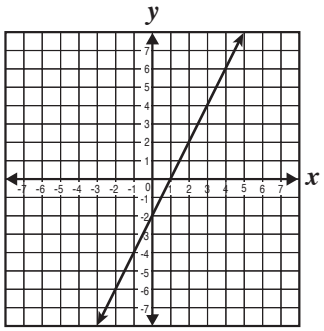
C $y > \frac{1}{2}x - 1$

D $y \geq \frac{1}{2}x - 1$

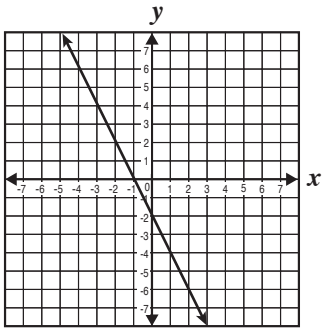
CSA10130

25 **Which *best* represents the graph of $y = 2x - 2$?**

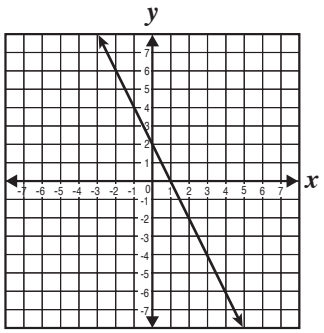
A



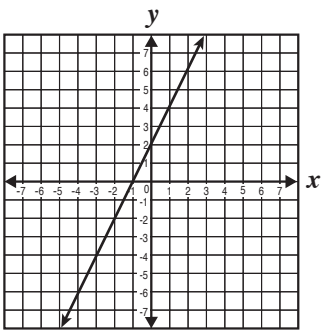
C



B

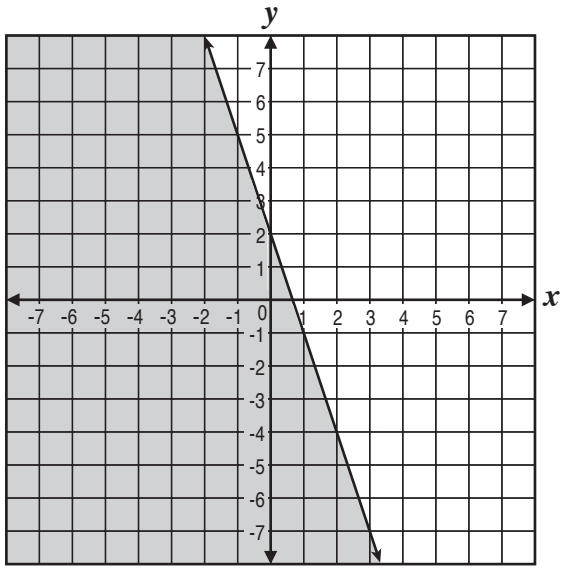


D



CSA00299

26 **Which inequality does the shaded region of the graph represent?**



A $3x + y \leq 2$

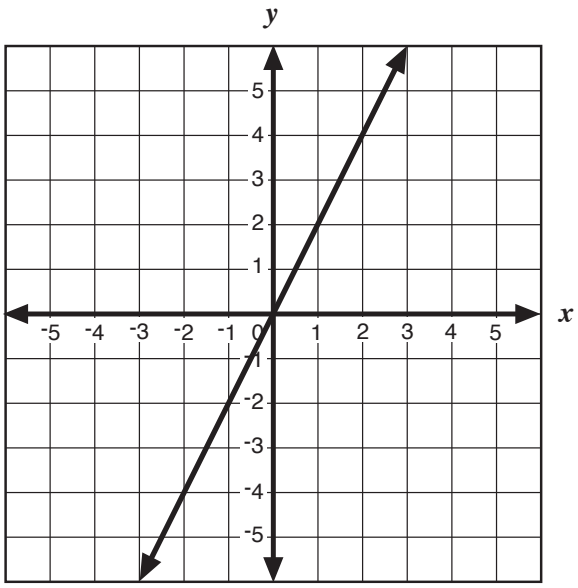
B $3x + y \geq 2$

C $3x + y \leq -2$

D $3x + y \geq -2$

CSA20055

27



Which equation *best* represents the graph above?

A $y = x$

B $y = 2x$

C $y = x + 2$

D $y = 2x + 2$

CSA00508

28 **Which point lies on the line defined by $3x + 6y = 2$?**

A $(0, 2)$

B $(0, 6)$

C $\left(1, -\frac{1}{6}\right)$

D $\left(1, -\frac{1}{3}\right)$

CSA00009

29 **What is the equation of the line that has a slope of 4 and passes through the point $(3,-10)$?**

A $y = 4x - 22$

B $y = 4x + 22$

C $y = 4x - 43$

D $y = 4x + 43$

CSA10150

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30 **The data in the table show the cost of renting a bicycle by the hour, including a deposit.**

Renting a Bicycle

Hours *(h)*	Cost in dollars *(c)*
2	15
5	30
8	45

If hours, h, were graphed on the horizontal axis and cost, c, were graphed on the vertical axis, what would be the equation of a line that fits the data?

A $c = 5h$

B $c = \frac{1}{5}h + 5$

C $c = 5h + 5$

D $c = 5h - 5$

CSA10005

31 **Some ordered pairs for a linear function of x are given in the table below.**

x	y
1	1
3	7
5	13
7	19

Which of the following equations was used to generate the table above?

A $y = 2x + 1$

B $y = 2x - 1$

C $y = 3x - 2$

D $y = 4x - 3$

CSA10181

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32 **The equation of line l is $6x + 5y = 3$, and the equation of line q is $5x - 6y = 0$. Which statement about the two lines is true?**

A Lines l and q have the same y-intercept.

B Lines l and q are parallel.

C Lines l and q have the same x-intercept.

D Lines l and q are perpendicular.

CSA00241

33 **Which equation represents a line that is parallel to $y = -\frac{5}{4}x + 2$?**

A $y = -\frac{5}{4}x + 1$

B $y = -\frac{4}{5}x + 2$

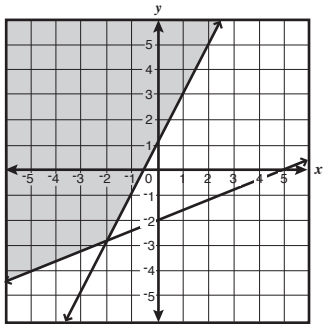
C $y = \frac{4}{5}x + 3$

D $y = \frac{5}{4}x + 4$

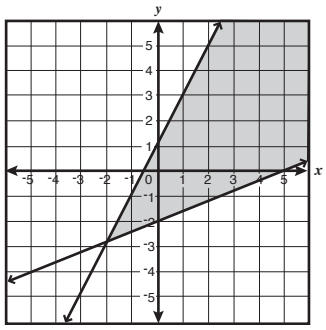
CSA10112

34 **Which graph *best* represents the solution to this system of inequalities?**

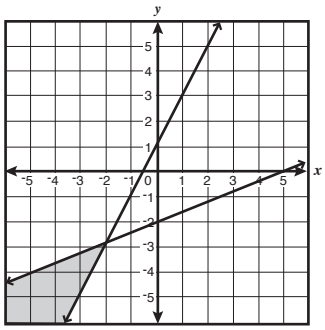
$$\begin{cases} 2x \geq y - 1 \\ 2x - 5y \quad 10 \end{cases}$$



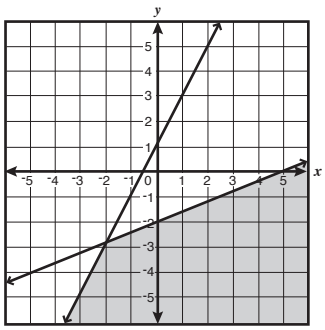
A



C



B



D

CSA00516

35 **What is the solution to this system of equations?**

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

A (6, 2)

B (1, –5)

C no solution

D infinitely many solutions

CSA00027

36 **Which ordered pair is the solution to the system of equations below?**

$$\begin{cases} x+3y=7 \\ x+2y=10 \end{cases}$$

A $\left(\frac{7}{2},\frac{13}{4}\right)$

B $\left(\frac{7}{2},\frac{17}{5}\right)$

C $(-2,$

D $(16,-3)$

CSA10131

37 **Marcy has a total of 100 dimes and quarters. If the total value of the coins is $14.05, how many quarters does she have?**

A 27

B 40

C 56

D 73

CSA20083

38 **Which of the following *best* describes the graph of this system of equations?**

$$\begin{cases} y=-2x+3 \\ 5y=-10x+15 \end{cases}$$

A two identical lines

B two parallel lines

C two lines intersecting in only one point

D two lines intersecting in only two points

CSA00509

39 $\frac{5x^3}{10x^7}=$

A $2x^4$

B $\frac{1}{2x^4}$

C $\frac{1}{5x^4}$

D $\frac{x^4}{5}$

CSA00303

40 $\left(4x^2-2x+8\right)-\left(x^2+3x-2\right)=$

A $3x^2+x+6$

B $3x^2+x+10$

C $3x^2-5x+6$

D $3x^2-5x+10$

CSA00086

41 **The sum of two binomials is $5x^2-6x$. If one of the binomials is $3x^2-2x$, what is the other binomial?**

A $2x^2-4x$

B $2x^2-8x$

C $8x^2+4x$

D $8x^2-8x$

CSA10160