1 Use the Substitution Method to solve the system.

$-4x + y = 17$

$-2x + 5y = 49$

A (1/2, 10)
B (-2, 9)
C (-1, 13)
D No solutions; parallel lines; inconsistent system
E Infinitely many solutions; lines coincide; dependent system
F HELP!

Oct 29-9:33 AM

solve for y

$-4x + y = 17 \longrightarrow y = (4x + 17)$

$-2x + 5y = 49 \longleftarrow$ into the other equation

$-2x + 5(4x + 17) = 49$

$-2x + 20x + 85 = 49$

$18x + 85 = 49$

$18x = -36$

$x = -2$

$y = 4(-2) + 17$

$y = -8 + 17$

$y = 9$

Oct 29-10:06 AM

2 Use the Substitution Method to solve the system.

$-3x + y = 20$

$-2x + 4y = -10$

A (-9, -7)
B (-8, -4)
C (-7, -6)
D No solutions; parallel lines; inconsistent system
E Infinitely many solutions; lines coincide; dependent system
F HELP!

Oct 29-9:33 AM

$-3x + y = 20$ → solve for y → $y = 3x + 20$

$-2x + 4y = -10$ ← substitute

$-2x + 4(3x + 20) = -10$

$-2x + 12x + 80 = -10$

$10x + 80 = -10$

$10x = -90$

$x = -9$

Put this back into $y = 3x + 20$

$y = 3(-9) + 20$

$y = -27 + 20$

$y = -7$

Oct 29-10:15 AM

3 Use the Substitution Method to solve the system.

$-3x + y = -14$

$-x + 3y = -10$

A (5, 1)
B (7, -1)
C (4, -2)
D No solutions; parallel lines; inconsistent system
E Infinitely many solutions; lines coincide; dependent system
F HELP!

Oct 29-9:33 AM

$-3x + y = -14$ → solve for y → $y = 3x - 14$

$-x + 3y = -10$ ← substitute into the other equation

$-x + 3(3x - 14) = -10$

$-x + 9x - 42 = -10$

$8x - 42 = -10$

$8x = 32$

$x = 4$

into $y = 3x - 14$

$y = 3(4) - 14$

$y = 12 - 14$

$y = -2$

Oct 29-10:21 AM

4 Use the Substitution Method to solve the system.

$$2x + 5y = 37$$
$$3x + 3y = 15$$

A (-4, 9)
B (-3, 43)
C (-5, 10)
D No solutions; parallel lines; inconsistent system
E Infinitely many solutions; lines coincide; dependent system
F HELP!

Oct 29-9:33 AM

substitute into the other equation

$2x + 5y = 37$
$3x + 3y = 15$

solve for x →

$3x = -3y + 15$

$\frac{1}{3}(3x) = \frac{1}{3}(-3y + 15)$

$x = -y + 5$

$2(-y+5) + 5y = 37$

$-2y + 10 + 5y = 37$

$3y + 10 = 37$

$3y = 27$

$y = 9$

$x = -(9) + 5$

$x = -4$

Oct 29-10:27 AM

5 Use the Substitution Method to solve the system.

$$2x - 5y = -7$$
$$-2x + 4y = 2$$

A (11, 6)
B (9, 5)
C (10, -27)
D No solutions; parallel lines; inconsistent system
E Infinitely many solutions; lines coincide; dependent system
F HELP!

Oct 29-9:33 AM

$2x - 5y = -7$
$-2x + 4y = 2$

solve for x → $-2x = -4y + 2$, $x = 2y - 1$ → substitute into the other eq.

$2(2y-1) - 5y = -7$
$4y - 2 - 5y = -7$
$-y - 2 = -7$
$-y = -5$
$y = 5$

into $x = 2y - 1$
$x = 2(5) - 1$
$x = 9$

Oct 29-10:36 AM

6 Use the Substitution Method to solve the system.

$$2x - 2y = 10$$
$$-3x + 3y = -15$$

for y → $-2y = -2x + 10$, $y = x - 5$

for y → $3y = 3x - 15$, $y = x - 5$

They are the same line.

A (-3, -8)
B (-4, -7)
C (-2, 14)
D No solutions; parallel lines; inconsistent system
E Infinitely many solutions; lines coincide; dependent system
F HELP!

Oct 29-9:33 AM

7 Use the Substitution Method to solve the system.

$$2x - 3y = -36$$
$$-4x + 6y = -72$$

A (-6, 8)
B (-5, -26)
C (-5, 9)
D No solutions; parallel lines; inconsistent system
E Infinitely many solutions; lines coincide; dependent system
F HELP!

Oct 29-9:33 AM