Solve this system of equations using Substitution.

$y = 3x - 7$

$y = 5x + 11$

ANS (,)

Solve this system of linear equations using substitution:

$y = 2x - 3$

$4x + 5y = -29$

$4x + 5(2x - 3) = -29$

You can solve this system of equations using Elimination

$4m + 3n = 9$ $4m + 2n = 2$

$4m + 3n = 9$

$-(4m + 2n = 2)$ →

$n = 7$

$4m + 2(7) = 2$

$m = -3$

$(-3, 7)$

Sec 3-2

Solving a system of linear equations Algebraically

Two Methods

Substitution:

Best when at least one eq is in slope-int form

Elimination:

Best when both are in STANDARD FORM

$Ax + By = C$

Which method would you use to solve this system of linear equations?

1. $y = -7x + 8$
   $y = 2x - 19$

   Substitution most common

2. $y = 6x - 12$
   $6x + 10y = 24$

   Subst.

3. $4x + 9y = 37$
   $-7x + 3y = 29$

   Elim

1. $y = -7x + 8$
   $y = 2x - 19$

2. $y = 6x - 12$
   $6x + 10y = 24$

typo on note sheet

3. Eliminating x

$7(4x + 9y = 37)$
$4(-7x + 3y = 29)$

$28x + 63y = 259$
$+ \; -28x + 112y = 116$

$175y = 375$
$y = 5$

Eliminating y

$4x + 9y = 37$
$-3(-7x + 3y = 29)$

$4x + 9y = 37$
$- \; +21x + 9y = 87$

$-25x = -50$
$x = 2$

4. Solve this system of linear equations.

$-12x + 7y = -29$

$2(6x + 5y = 23)$ $+$ $12x + 10y = 46$

$17y = 17$

$y = 1$

$(3, 1)$

Now find x:

$6x + 5(1) = 23$

$x = 3$

$6x + 3y = 21$

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

$0 = 33$

NO SOL

Solve this system of equations using elimination:

to eliminate c:

$3(8c + 3d = 41)$

$4(6c + 11d = 57)$

$24c + 9d = 123$

$24c + 44d = 228$

Now subtract to solve for d.

To eliminate d:

$11(8c + 3d = 41)$

$3(6c + 11d = 57)$

$88c + 33d = 451$

$18c + 33d = 627$

Now subtract to solve for c.

An athletic director needs to purchase some equipment. One day seven basketballs and six volleyballs were purchased for $425. The following week, nine basketballs and five volleyballs were purchased from the same store for $465.

Write and solve a system of equations to find the cost of each basketball and each volleyball.

$7B + 6V = 425$

$9B + 5V = 465$

Variables

B = cost of B-Ball

V = cost of V-Ball