[4.2 B] Solving by Substitution (NS; IMS)

① $a + 2b = 7 \rightarrow a = 7 - 2b$

$2a + 4b = 8$

$2(7 + 2b) + 4b = 8$

$14 + -4b + 4b = 8$

$14 \neq 8$

(False Statement)
No Solution or **N.S.**

② $\frac{x}{2} = 3 - y$

$x + 2y = 6 \rightarrow x = 6 - 2y$

$\frac{1}{2}\left(\frac{6-2y}{1}\right) = (3-y)2$

$6 - 2y = 6 - 2y$

$6 = 6$

(True Statement)
Infinitely Many Solutions **IMS**

Write 3 possible Solutions

$x = 6 - 2y$

Pick values for y.

(x, y)
(4, 1)
(2, 2)
(6, 0)

If $y = 1$, $x = 6 - 2 \cdot 1$, $x = 4$

If $y = 2$, $x = 6 - 2 \cdot 2$, $x = 2$

If $y = 0$, $x = 6 - 2 \cdot 0$, $x = 6$

③ $m - 3 = -2n \rightarrow m = -2n + 3$

$3n - 2m = -20$

$3n + -2(-2n + 3) = -20$

$3n + 4n + -6 = -20$

$7n = -14$

$n = -2$

$m = -2(-2) + 3$

$m = 4 + 3$

$m = 7$

(7, -2)

ABC order

[4-2B] Homework (#2-18)x2 (#31-36) ace

Solve by the substitution method.

1. $y = 6x$
   $x + y = 28$

2. $y = 2x$
   $5x - y = 30$

3. $a = 3b$
   $a - b = 12$

4. $m = 4n$
   $3m - 2n = 20$

5. $s = t + 2$
   $2t + s = 17$

6. $c = 3d - 4$
   $c + d = 16$

7. $3x + 1 = y$
   $2x + 3y = 25$

8. $3a = 2b - 6$
   $a = b - 1$

9. $4f - 3h = 0$
   $f + 4h = 19$

10. $3n + 5m = 7$
    $m - 4n = 6$

11. $2a - b = 17$
    $3a + 4b = -13$

12. $3y - x = -9$
    $2y + 5x = 11$

13. $2r + 3s = 0$
    $r + 5 = 6s$

14. $3x + 2y = 11$
    $x - 2 = -4y$

15. $2a - b = 1$
    $a = \frac{3}{5}b$

16. $3x + 2y = 550$
    $x = \frac{4}{5}y$

17. $c - d = 8$
    $\frac{c}{5} = d + 4$

18. $\frac{y}{2} - x = 1$
    $x + y + 7 = 0$

Determine whether each of the following systems has no solution or infinitely many solutions. If there are infinitely many solutions, give three of them.

31. $5y - 2x = 3$
    $6x = 15y - 1$

32. $3y - 6x = 24$
    $8 + 2x = y$

33. $2x = 14y$
    $\frac{x - y}{3} = \frac{x + y}{4}$

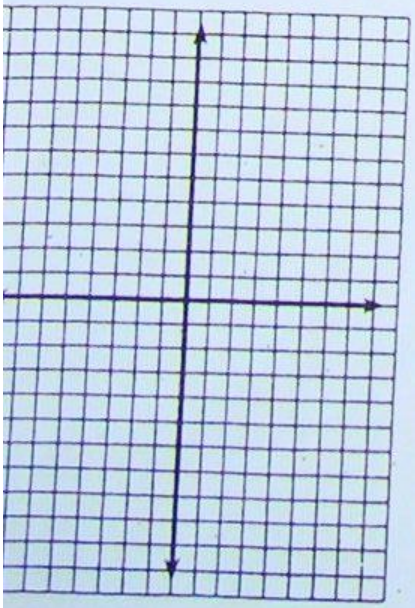
Solve each system by (a) the graphing method; (b) the substitution method.

34. $y = 3x - 7$
    $6x - 2y = 12$

35. $y = \frac{2}{3}x - 5$
    $4x - 6y = 30$

36. $4x + y = 20$
    $\frac{1}{2}y = -2x + 10$

(34)



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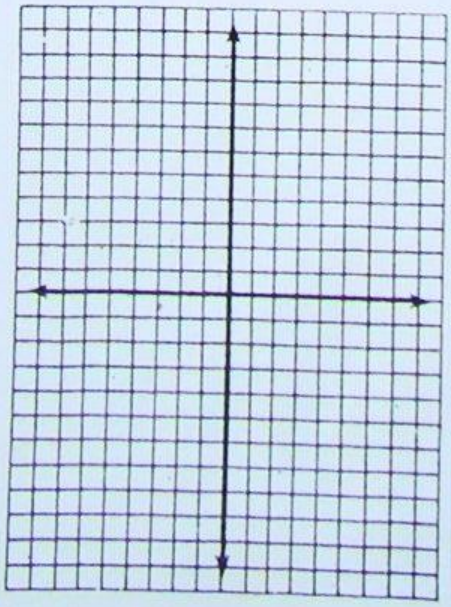

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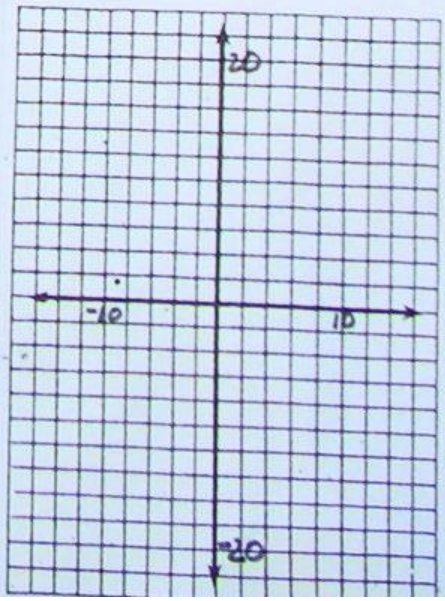

[4-2.B.]

(#2-18) x 2 (#31-36) ans

(2) (10, 20)

(4) (8, 2)

(6) (11, 5)

(8) (-4, -3)

(10) (2, -1)

(12) (3, -2)

(14) $(4, -\frac{1}{2})$

(16) (100, 125)

(18) (-3, -4)

(31) No Solution

(32) Infinitely Many Solutions... you should also list 3 possibilities.

AMV
(0, 8)
(1, 10)
(2, 12)

(33) I.M.S. w/3 possible solutions

(34) N.S.

(35) IMS

(36) IMS