

121 Sys. 1 #s 9, 10, 23, 24, 37, 39, 45, 51, 53

As 7-10 Determine if ordered pair is sol'n.

9 $(-1, 5)$

$$2x + y = 3$$

$$x - 2y = -9$$

$$2(-1) + 5 = 3?$$

$$-2 + 5 = 3 \checkmark$$

$$-1 - 2(5) = -9?$$

$$-1 - 10 = -11 \neq -9$$

No

10 $(3, 2)$

$$3x - y = 7$$

$$2x + 4y = 16$$

$$3(3) - 2 = 7?$$

$$9 - 2 = 7 \checkmark$$

$$2(3) + 4(2) = 16?$$

$$6 + 8 = 14 \neq 16$$

No

#s 23-36 Solve by Substitution.

Independent? Inconsistent? Consistent?

23

$$y = 2x + 1$$
$$3x - 4y = 1$$

$$\Rightarrow 3x - 4(2x + 1) = 1$$

$$3x - 8x - 4 = 1$$

$$-5x = 5$$

$$x = -1$$

$$y = 2(x) + 1$$

$$= 2(-1) + 1$$

$$= -2 + 1$$

$$= -1 = y$$

$$(x, y) = (-1, -1)$$

Independent
Consistent

12) Sⁿ #s 2, 7, 39, 45, 51, 53

~~37~~ #537 - 50 solve by addition
Ind? Cons? Incons?

37

$$x + y = 2$$

$$x + y = 6$$

$$2x = 8$$

$$x = 4$$

$$4 + y = 2$$

$$y = -2$$

$$(x, y) = (4, -2)$$

Independent
consistent

39

I

$$x - y = 5$$

II

$$3x + 2y = 10$$

-3 I

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

II

$$3x + 2y = 10$$

-3 I + II

$$5y = -5$$

$$y = -1$$

Independent
consistent

$$(x, y) = (4, -1)$$

$$x - (-1) = 5$$

$$x + 1 = 5$$

$$x = 4$$

121 § 5.1 #s 45, 51, 53

$$\begin{array}{l} \textcircled{45} \text{ I } 0.05x + 0.1y = 0.6 \\ \text{II } x + 2y = 12 \end{array} \quad \begin{array}{l} 100 \text{ I } 5x + 10y = 60 \\ \text{II } x + 2y = 12 \end{array}$$

$$-5 \text{ II } - 5x - 10y = -60$$

$$\text{I } 5x + 10y = 60$$

$$0 = 0$$

Always true. If you're on one line, you're on both!

Dependent
consistent

$$\left\{ \begin{array}{l} \text{I } (x, y) \mid 0.05x + 0.1y = 0.6 \\ \text{II } (x, y) \mid x + 2y = 12 \end{array} \right\} \text{ is OK}$$
$$\left\{ \begin{array}{l} \text{I } (x, y) \mid 5x + 10y = 60 \\ \text{II } (x, y) \mid x + 2y = 12 \end{array} \right\} \text{ is OK, too.}$$

#s 51-54 classify as Independent, etc.

51

$$y = 5x - 6$$

$$y = -5x - 6$$

Slopes different \Rightarrow

They cross \Rightarrow

Independent, consistent

53

$$5x - y = 6$$

$$y = 5x - 6 \Rightarrow 6 = 5x - y$$

$\Rightarrow 5x - y = 6 \Rightarrow$ same line!

Dependent, consistent