

BE-1B

WEDNESDAY 1-23-08

SOLVE:

① $25x^2 - 1 = 0$

② $w^2 - 49 = 0$

③ $m(m+6) - 4(m+6) = 0$

④ $7x^2 + 10x = 8$

TAKE OUT HOMEWORK

~~~~~ ANSWER WB ~~~~~

① Pg 38 #1

② Pg 38 #2

} ③ Pg 39 #5

} ④ Pg 39 #7

ON THE SAME graph, graph  
 $y = 2x + 3$  AND  $y = 4x - 1$

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WHERE DO THESE LINES CROSS?

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TWO linear equations form a system of linear equations. The  $(x, y)$  pair where they cross is the solution. It is the only  $(x, y)$  pair that is true for BOTH linear equations.

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How TO SHOW:

$$\begin{cases} y = 2x + 3 \\ y = 4x - 1 \end{cases}$$

## 2 ways TO SOLVE systems of linear eq.

Both ways  $\Rightarrow$  ELIMINATE the X or Y  
 so you have ALL X and numbers  
 or ALL Y and numbers.

EBS  $\Rightarrow$  ELIMINATE BY SUBSTITUTION

EBA  $\Rightarrow$  ELIMINATE BY ADDITION

BOTH METHODS ALWAYS WORK.

ONE IS USUALLY EASIER depending on the system

EBS

$$\begin{cases} y = 2x + 3 \\ y = 4x - 1 \end{cases}$$

$$\begin{array}{r} 2x + 3 = 4x - 1 \\ -2x \quad -2x \\ \hline 3 = 2x - 1 \end{array}$$

$$3 = 2x - 1$$

$$4 = 2x$$

$$\boxed{2 = x}$$

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

$$\boxed{y = 7}$$

$\nearrow$   
 EITHER

EBA

$$\begin{cases} y = 2x + 3 \rightarrow -y = -2x - 3 \\ y = 4x - 1 \rightarrow y = 4x - 1 \end{cases}$$

$$0 = 2x - 4$$

$$4 = 2x$$

$$\boxed{2 = x}$$

EITHER

$$y = 2(2) + 3$$

$$\boxed{y = 7}$$

$$\textcircled{\text{EX}} \begin{cases} 2x + 3y = 1 \\ -3x + y = 15 \end{cases}$$

$$\textcircled{\text{EX}} \begin{cases} x + y = 3 \\ 2x - 3y = 16 \end{cases}$$

EBS  $\Rightarrow$  Solve for one of the four X or Y terms, pick EASIEST, then substitute.

EBA  $\Rightarrow$  Get X, Y, numbers lined up.

GET EQUAL AND OPPOSITE coefficients of the X or Y terms, follow GRE, then Add.

Homework: • Look over ch 7-1 to 7-4  
• Pg. 391 # 28, 32.