Today's Learning Goal(s):

By the end of the class, I will be able to:

a) Solve a linear system using the method of elimination and check the answer.

MPM 2DI **1.4 Solve by Elimination** (Day 2) Date: Sept. 14/16

Ex. 1 Solve the system by elimination, and include a proper check.

$5x-2y=9$ ①
$2x+3y=15$ ②

ELIM x

2×① $10x-4y=18$ ③
-5×② $-10x-15y=-75$ ④

$-19y=-57$

$\frac{-19y}{-19}=\frac{-57}{-19}$

$y=3$

Sub in ①
$5x-2(3)=9$
$5x-6=9$
$5x=9+6$
$5x=15$
$x=3$

Check in ② RS=15
$LS=2x+3y$
$=2(3)+3(3)$
$=6+9$
$=15$
$\therefore LS=RS$
$\therefore (3,3)$ is the solution

Ex. 2 Solve the system by elimination, and include a proper check.

$3x+2y=14$ ①
$2x+3y=6$ ②

ELIM Y

×3 → $9x+6y=42$
×(−2) → $-4x-6y=-12$

$5x = 30$

$\frac{5x}{5} = \frac{30}{5}$

$x=6$

$3(6)+2y=14$
$18+2y=14$
$2y=14-18$
$2y=-4$
$y=-2$

∴ (6, −2) is correct!

Check in ②

LS $= 2x+3y$ RS $=6$
$=2(6)+3(-2)$
$=12-6$
$=6$
∴ LS = RS

Ex. 3 Solve the system by elimination, and include a proper check.

$0.4x - 0.1y = 0.7$ ①

$0.06x + 0.05y = 0.17$ ②

$10 \times ①$ $4x - y = 7$ ③

$100 \times ②$ $6x + 5y = 17$ ④

$5 \times ③$ $20x - 5y = 35$ ⑤

$26x = 52$

$x = 2$

Sub in ①

$0.4(2) - 0.1y = 0.7$

$0.8 - 0.1y = 0.7$

$-0.1y = 0.7 - 0.8$

$\frac{-0.1y}{-0.1} = \frac{-0.1}{-0.1}$

$y = 1$

LS $= 0.06x + 0.05y$

$= 0.06(2) + 0.05(1)$

$= .12 + 0.05$

$= 0.17$

RS $= 0.17$

$\therefore$ LS = RS

$\therefore (2, 1)$ is the solution

Today's eliminaon pracce:

pp. 40-41 #5a*, 7a, 10, 14a, 19b, 20

***Do a check for 5a only**

Google Classroom: Preview 3 videos before tomorrow's class

Bring headphones to tomorrow's class.