Name _____ Date _____

5-2 Substitution **Algebra!**

Circle your answer.

Solve systems of equations by substitution

1. $y=3x$
$x + 2y = -21$

$x + 2 \cdot 3x = -21$

$x + 6x = -21$

$\frac{7x}{7} = \frac{-21}{7}$

$x = -3$

YES or No

2. $x + 5y = -3$
$3x-2y = 8$

a. $x = -5y - 3$

$3(-5y - 3) - 2y = 8$

$-15y - 9 - 2y = 8$

$-17y - 9 = 8$

$+9 \quad +9$

$-17y = 17$

$y = -1$

Yes or No

b. $x = -5(-1) - 3$

$x = 5 - 3$

$x = 2$

Yes or No

3. $y = -6$
$4x + y = 2$

$4x + -6 = 2$

$4x - 6 = 2$

$+6 \quad +6$

$\frac{4x}{4} = \frac{8}{4}$

$x = 2$

YES or No

4. $x = 2$
$3x - y = 8$

$3 \cdot 2 - y = 8$

$6 - y = 8$

$-6 \quad -6$

$\frac{-y}{-1} = \frac{2}{-1}$

$y = -2$

YES or No

5. $y = -x$
$Y = 2x - 6$

$-x = 2x - 6$

$-2x \quad -2x$

$\frac{-3x}{-3} = \frac{-6}{-3}$

$x = 2$

YES or No

6. $x - 2y = -2$
$3x + y = 6$

$x = 2y - 2$

a. $3(2y - 2) + y = 6$

$6y - 6 + y = 6$

$7y = 12$

$y = 12/7$

YES or No

b. $x = 2(\frac{12}{7}) - 2$

$x = \frac{24}{7} - \frac{14}{7}$

$x = \frac{10}{7}$

YES or No

Yes / No Strategies