Solving Systems Using Substitution Practice Name _____

Use the Substitution Method to solve each system of equations.

1. $y = 6x - 4$
   $y = -2x + 28$

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

3. $y = \frac{1}{4}x$
   $2x + 2y = 5$

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1. $y = 6x - 4$
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$6x - 4 = -2x + 28$
$+2x \quad +2x$
$8x - 4 = 28$
$+4 \quad +4$
$\frac{8x}{8} = \frac{32}{8}$
$x = 4$

$y = 6x - 4$
$y = 6(4) - 4$
$y = 20$

$(4, 20)$

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

$y = 3(3y + 1) + 21$
$y = 9y + 3 + 21$
$-9y \quad -9y$
$\frac{-8y}{-8} = \frac{24}{-8}$
$y = -3$

$x = 3y + 1$
$x = 3(-3) + 1$
$x = -9 + 1$
$x = -8$

$(-8, -3)$

3. $y = \frac{1}{4}x$
$2x + 2y = 5$

$2x + 2\left(\frac{1}{4}x\right) = 5$
$2x + \frac{1}{2}x = 5$
$\frac{2}{5} \cdot \frac{5}{2}x = 5 \cdot \frac{2}{5}$
$x = 2$

$y = \frac{1}{4}x$
$y = \frac{1}{4}(2)$
$y = \frac{1}{2}$

$(2, \frac{1}{2})$