KEY

MAT1033 Class Workwheet 5 Name:_____

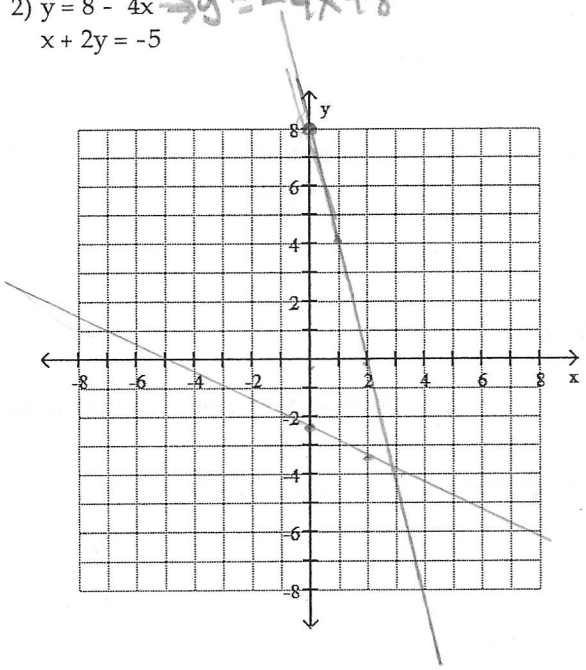
Decide whether the ordered pair is a solution of the given system.

1) $4x + y = 14$
$2x + 4y = 14$; (3, 2)

$4(3)+2=14$ $\quad 2(3)+4(2)=14$
$12+2=14$ $\quad 6+8=14$ yes
$14=14$ $\quad 14=14$

Solve the system by graphing.

2) $y = 8 - 4x$ $\Rightarrow y=-4x+8$
$x + 2y = -5$



$2y=-x-5$
$y=-\frac{1}{2}x-\frac{5}{2}$

$(3,-4)$? $\quad -4=8-4(3)$
$=8-12=-4$ ✓

$3+2(-4)=-5$
$3+(-8)=-5$
$-5=-5$ ✓

Solve the system by substitution. If the system is inconsistent or has dependent equations, say so.

3) $x + y = 12$
$y = 4x - 3$

$x+(4x-3)=12$
$x+4x-3=12$
$5x-3=12$
$5x=15$
$x=3$

$y=4(3)-3$
$=12-3$
$=9$

$3+9=12$ ✓
$9=4(3)-3$
$12-3$ ✓

$(3,9)$

Solve the system by substitution. If the system is inconsistent or has dependent equations, say so.

4) $x + y = 4$
$6x + 6y = 24$

$x+y=4 \Rightarrow y=-x+4$
$6x+6y=24$
$6x+6(-x+4)=24$
$6x-6x+24=24$
$24=24$

dependent → same line