Math-3 Name_____ ID: 1

SM3 HW #7-5 (solve systems of equations)

Date_____ Period____

Solve each system by elimination or substition. Work on a separate sheet of paper. When you take the test, you'll have to show your work on at least one problem.

1) $10x + 4y = -2$
$-5x - 4y = -13$

A) $(-3, 7)$ B) $(-4, -7)$
C) $(7, -3)$ D) $(-7, -3)$

2) $-5x + 4y = 16$
$5x - 4y = -16$

A) $(6, -2)$
B) $(-6, -2)$
C) Infinite number of solutions
D) $(-6, 2)$

3) $-8x + y = 10$
$-4x - 8y = -12$

A) $(2, 1)$ B) $(1, -2)$
C) $(-1, 2)$ D) $(-2, 1)$

4) $8x + y = 26$
$16x - 4y = -8$

A) $(10, -2)$ B) $(2, 10)$
C) $(-1, -2)$ D) $(10, 2)$

5) $-18x + 6y = 0$
$-15x + 5y = 15$

A) $(5, 4)$ B) No solution
C) $(4, 8)$ D) $(8, 4)$

6) $3x - 6y = -15$
$-5x - 10y = 25$

A) $(-5, 0)$ B) $(-10, 5)$
C) $(0, 5)$ D) $(-5, -10)$

Solve each system by substitution. Show your work!

7) $y = 7x - 14$
$y = -5x - 2$

A) $(-1, -7)$ B) $(1, -7)$
C) $(1, 7)$ D) $(-1, 7)$

8) $y = -6x - 12$
$y = -2x - 8$

A) $(-3, 6)$ B) $(-1, 6)$
C) $(1, -6)$ D) $(-1, -6)$

9) $5x + 7y = -13$
$y = 5x - 19$

A) $(3, -4)$
B) $(3, -6)$
C) $(3, 6)$
D) Infinite number of solutions

10) $-6x + 3y = 8$
$y = 3x - 3$

A) $(-22, -3)$
B) $\left(2, -\frac{3}{14}\right)$
C) $(\frac{14}{3}, 3)$
D) $\left(-\frac{3}{5}, 2\right)$

11) $-4x + y = -17$
$-2x + 2y = -10$

A) $(4, -1)$
B) $(-1, 1)$
C) $(1, -1)$
D) $(-1, -1)$

12) $x + 5y = -6$
$2x - 7y = 22$

A) $(4, -2)$
B) $(2, 2)$
C) $(-2, 2)$
D) $(-4, 2)$

13) $x - 3y = -23$
$4x - y = -26$

A) $(-6, -5)$
B) $(-5, -6)$
C) $(-5, 6)$
D) $(5, -6)$

14) $10x - 2y = -8$
$5x + y = 14$

A) $(10, -2)$
B) $(10, 1)$
C) $(1, 9)$
D) No solution

15) Solve by factoring
$7r^2 - 41r - 6 = 0$

A) $\{-\frac{1}{7}, 6\}$
B) $\{\frac{1}{7}, -6\}$
C) $\{-\frac{1}{7}, 4\}$
D) $\{\frac{4}{3}\}$

16) Solve:
$x^2 - 4 = -7$

A) $\{i\sqrt{3}, -i\sqrt{3}\}$
B) $\{10, -10\}$
C) $\{i\sqrt{11}\}$
D) $\{\sqrt{86}, -\sqrt{86}\}$

17) $x^2 + 6x - 72 = 0$

A) $\{6, -12\}$
B) $\{-4, -16\}$
C) $\{4, -16\}$
D) $\{-10 + \sqrt{41}, -10 - \sqrt{41}\}$

18) $b^2 + 18b + 32 = 0$

A) $\{4 + \sqrt{61}, 4 - \sqrt{61}\}$
B) $\{-2, -16\}$
C) $\{9, -5\}$
D) $\{9 + \sqrt{113}, 9 - \sqrt{113}\}$

Solve each system by elimination.

19) $-4x - 2y - 6z = -18$
$-3x + 3y - 2z = 6$
$4x - 5y + 5z = 5$

A) $(6, 5, -1)$
B) No solution
C) $(6, -5, 1)$
D) $(-5, 1, 6)$

20) $-4a - b + 6c = -29$
$4a - 3b + 5c = -3$
$a + 6b + 3c = -28$

A) $(3, 6, -2)$
B) $(-4, 6, -3)$
C) $(3, -2, 3)$
D) $(2, -3, -4)$