Algebra 2

Name_____

Solve by Graphing: Days 1 and 2

Date_____ Period_

Solve each system by graphing.

1) $y = \dfrac{7}{9}x + 8$

$y = -\dfrac{2}{9}x - 1$

2) $y = -4x + 6$

$y = 4x - 2$

3) $y = -\dfrac{17}{7}x - 9$

$y = -\dfrac{4}{7}x + 4$

4) $y = 5x - 5$

$y = \dfrac{1}{2}x + 4$

5) $y = \dfrac{5}{3}x + 4$

$y = \dfrac{5}{3}x - 7$

6) $y = -3x + 5$

$y = 5x - 3$

7) $y = \dfrac{1}{7}x - 2$

$y = -\dfrac{5}{7}x + 4$

8) $y = -\dfrac{1}{7}x + 8$

$y = -\dfrac{15}{7}x - 6$

9) $x - y = -5$

$11x + y = -7$

10) $5x - 2y = -18$

$5x + y = -6$

11) $y = 7$

$10x - 9y = 27$

12) $3x - 4y = 8$

$6x - 8y = 16$

13) $x - 9y = 63$
    $14x + 9y = 72$

14) $11x + 5y = -15$
    $x + 5y = 35$

15) $x - 7y = 35$
    $x + y = 3$

16) $5x + 9y = -63$
    $10x - 9y = -72$

17) $x + 2y = 2$
    $x - y = -7$

18) $7x + 8y = 16$
    $7x + 8y = 40$

19) $x - 2y = -12$
    $3x + 2y = 4$

20) $5x - 9y = 54$
    $7x + 9y = 54$

21) $5x + 3y = 21$
    $11x - 3y = 27$

22) $5x - 6y = 18$
    $17x - 6y = -54$

23) $2x + 3y = 12$
    $6x + 9y = 36$

24) $5x - 4y = 12$
    $7x + 4y = 36$

DAY 2: Solve each system by graphing. Please note: you may have to use Zoom in order to get the solution.

25) $y = \dfrac{11}{9}x - 16$

$y = -\dfrac{1}{2}x + 15$

26) $y = -\dfrac{7}{4}x + 16$

$y = -\dfrac{7}{4}x + 9$

27) $y = 12x - 8$

$y = -x + 18$

28) $y = \dfrac{1}{2}x + 12$

$y = -\dfrac{8}{3}x - 7$

29) $y = \dfrac{3}{2}x + 12$

$y = -\dfrac{7}{3}x - 11$

30) $y = \dfrac{4}{17}x + 15$

$y = \dfrac{24}{17}x - 5$

31) $6x - 5y = 5$

$24x - 20y = 20$

32) $19x + 13y = -39$

$x - 13y = -221$

33) $x - 3y = -15$

$3x - y = 3$

34) $19x - 18y = 180$

$x + 18y = 180$

35) $5x + 3y = 51$

$22x - 3y = 30$

36) $6x - 13y = 143$

$22x - 13y = -65$

37) $2x - 3y = -51$

$11x - y = 14$

38) $2x + y = 18$

$14x - 11y = 198$

39) $x + 5y = -10$
    $9x - 5y = -40$

40) $5x + 19y = 152$
    $5x + 19y = -76$

Solve each system by graphing.

41) $5y + 4x = 10$
    $0 = -5y - 15 + x$

42) $0 = 14 + 3x - 2y$
    $-1 - \frac{1}{6}y = \frac{1}{48}x$

43) $0 = x - \frac{3}{8}y - \frac{21}{8}$
    $-6 + x = -3y$

44) $-1 - \frac{3}{8}x - \frac{1}{6}y = 0$
    $-7 + y = x$

45) The sum of the digits of a certain two-digit number is 14. When you reverse its digits you decrease the number by 36. Find the number.

46) A plane traveled 624 miles to Havana and back. The trip there was with the wind. It took 8 hours. The trip back was into the wind. The trip back took 13 hours. Find the speed of the plane in still air and the speed of the wind.

47) Jasmine's school is selling tickets to a spring musical. On the first day of ticket sales the school sold 6 adult tickets and 2 child tickets for a total of $50. The school took in $147 on the second day by selling 14 adult tickets and 7 child tickets. Find the price of an adult ticket and the price of a child ticket.

48) The school that Heather goes to is selling tickets to a choral performance. On the first day of ticket sales the school sold 3 senior citizen tickets and 3 child tickets for a total of $60. The school took in $191 on the second day by selling 10 senior citizen tickets and 9 child tickets. Find the price of a senior citizen ticket and the price of a child ticket.

49) The state fair is a popular field trip destination. This year the senior class at High School A and the senior class at High School B both planned trips there. The senior class at High School A rented and filled 14 vans and 10 buses with 686 students. High School B rented and filled 10 vans and 4 buses with 314 students. Every van had the same number of students in it as did the buses. How many students can a van carry? How many students can a bus carry?

50) Shayna and Ming each improved their yards by planting grass sod and ivy. They bought their supplies from the same store. Shayna spent $24 on 1 ft² of grass sod and 9 pots of ivy. Ming spent $20 on 1 ft² of grass sod and 7 pots of ivy. What is the cost of one ft² of grass sod and the cost of one pot of ivy?

Answers to Solve by Graphing: Days 1 and 2 (ID: 1)

1) $(-9, 1)$ 2) $(1, 2)$ 3) $(-7, 8)$ 4) $(2, 5)$

5) No solution   6) $(1, 2)$ 7) $(7, -1)$ 8) $(-7, 9)$

9) $(-1, 4)$ 10) $(-2, 4)$ 11) $(9, 7)$

12) infinite many solutions   13) $(9, -6)$ 14) $(-5, 8)$

15) $(7, -4)$ 16) $(-9, -2)$ 17) $(-4, 3)$ 18) No solution

19) $(-2, 5)$ 20) $(9, -1)$ 21) $(3, 2)$ 22) $(-6, -8)$

23) infinite many solutions   24) $(4, 2)$ 25) $(18, 6)$

26) No solution   27) $(2, 16)$ 28) $(-6, 9)$ 29) $(-6, 3)$

30) $(17, 19)$ 31) infinite many solutions   32) $(-13, 16)$

33) $(3, 6)$ 34) $(18, 9)$ 35) $(3, 12)$ 36) $(-13, -17)$

37) $(3, 19)$ 38) $(11, -4)$ 39) $(-5, -1)$ 40) No solution

41) $(5, -2)$ 42) $(-8, -5)$ 43) $(3, 1)$ 44) $(-4, 3)$

45) 95   46) plane: 63 mph, wind: 15 mph

47) adult ticket: $4, child ticket: $13   48) senior citizen ticket: $11, child ticket: $9

49) Van: 9, Bus: 56   50) ft² of grass sod: $6, pot of ivy: $2