Red Bank Catholic High School
CP Algebra II Summer Practice

Instruction:
1. These problems are for the students who will be entering CP Algebra II in the upcoming Fall term.
2. The students should practice checking their solutions to determine if they are correct or not.

1. Solve the equation $5x - 7 = 3x + 5$

2. Solve the equation $3(2x - 7) = 2 - 3x$

3. Solve the equation $2(11 - 3x) = 5(7 - 2x)$

4. Solve the equation $2(3x - 5) + 3 = 2x + 1$

5. Solve the equation $3(5x - 4) - 5 = 2(7 - 5x) + 3$

6. Solve the equation $5(3 - 2x) + 7 = 2(2 - 3x) + 9$

7. Solve the equation $\frac{1}{2}(2x + 5) + 3 = 3x + 5$

8. Solve the equation $\frac{1}{3}(x + 4) - 5 = 2 - \frac{5}{2}x$

9. Solve the equation $5 - (2x - 7) = 2(2 - 3x)$

10. Solve the equation $3 - 2(3 - 7x) = \frac{2}{3}(6 - 3x)$

11. Evaluate the expression $x - y(x + y)$ if $x = 5$ and $y = 9$

12. Evaluate the expression $x - y(x + y)$ if $x = 5$ and $y = -9$

13. Evaluate the expression $x - y(x - y)$ if $x = -3$ and $y = -6$

14. Evaluate the expression $x - y(x - y)^2$ if $x = 3$ and $y = 5$

15. Evaluate the expression $x - y(x + y)^2$ if $x = 5$ and $y = -7$

16. Evaluate the expression $x - y|x - y|$ if $x = 2$ and $y = 4$

17. Evaluate the expression $x + y|x - y|$ if $x = 2$ and $y = -4$

18. Find the slope of the line that goes through the points $(2, 4)$ and $(5, 6)$.

19. Find the slope of the line that goes through the points $(2, 8)$ and $(5, 3)$.

20. Find the slope of the line that goes through the points $(-3, 4)$ and $(7, 2)$.

21. Find the slope of the line that goes through the points $(-3, 4)$ and $(4, -6)$.

22. Find the slope of the line that goes through the points $(-5, 4)$ and $(-2, 9)$.

23. Find the slope of the line that goes through the points $(-4, 4)$ and $(-11, 7)$.

24. What is the slope of the line $y = -3x + 5$?

25. What is the slope of the line $y = -\frac{5}{2}x + 5$?

26. What is the slope of the line $3y + 2x = 5$?

27. What is the slope of the line $3y = 5x + 5$?

28. What is the slope of the line $5y = 5 - 2x$?

29. What is the y-intercept of the line $3 = \frac{2}{7}x - 8$?

30. What is the y-intercept of the line $3y + 2x = 8$?

31. What is the y-intercept of the line $3y - 2x = 11$?

32. What is the y-intercept of the line $9y = 5x - 3$?

33. What is the slope of the line parallel to the line $y = -3x + 5$?

34. What is the slope of the line perpendicular to the line $y = 3x - 2$?

35. What is the slope of the line perpendicular to the line $y = \frac{1}{2}x + 11$?

36. What is the slope of the line perpendicular to the line $y = -\frac{7}{5}x + 11$?

37. What is the slope-intercept form of the line with a slope of 2 and a y-intercept -3?

38. What is the slope-intercept form of the line with a slope of $\frac{3}{4}$ and contains the point $(8, 1)$?

39. What is the slope-intercept form of the line that contains the point $(3, 1)$ and $(-2, -7)$?

40. Graph the line $y = -4x + 12$

41. Graph the line $y = \frac{2}{3}x - 6$

42. Graph the line $3x + 4y = 12$

43. Graph the line $3x - 4y = 12$

44. What is the solution of the system of equations $\quad 3x = 51$

$$x + 2y = 35$$

45. What is the solution of the system of equations $\quad x + y = 36$

$$2x - 2y = 72$$

46. What is the solution of the system of equations $\quad x + y = 9$

$$2x - y = 6$$

47. The cafeteria charges 65 cents for a container of juice. Robyn paid $2.25 for a sandwich and a container of juice. How much is the sandwich?

48. Chelsea paid $3.23 for 2 tubes of toothpaste. She paid the regular price of $1.79 for one tube, but she used a sales coupon for the 2nd tube. How much is the sales coupon worth?

49. During a sale, Madeline purchased a box of pencils for $4.69. A week later, she had t pay the standard price for another box of pencils. IF she paid a total of $10.64 for both boxes, how much was the price reduction for the sale?

50. Quinn sells both hardcover and paperback versions of a book. If the hardcover sells for $16.50 each and the paperback for $4.95 each. How many copies of the hardcover must be sold in order to take in as much money as selling 30 copies of the paperback?

51. 3,000 people attended the Spring Concert. Some paid $10 for the ticket and some paid $5. If the total amount received is $25,000, how many tickets of each kind was sold?

52. Factor $x^2 + 14x + 40$

53. Factor $x^2 - 7x + 12$

54. Factor $x^2 - 6x + 6$

55. Factor $2x^2 - 7x - 4$

56. Factor $3x^2 - 10x + 7$

57. Evaluate $\sqrt{64}$

58. Evaluate $\sqrt{169}$

59. Evaluate $\sqrt{40}$

60. Evaluate $\sqrt{48}$

61. Simplify $(x^2 + 5x - 7) + (x^2 - 8x + 9)$

62. Simplify $(x^2 - 3x - 6) - (-x^2 - 8x + 4)$

63. Simplify $(4x^3)(5x^2)$

64. Simplify $7x(2x^2 - x - 3)$

65. Simplify $(x + 4)(x + 2)$

66. Simplify $(x + 9)(x - 3)$

67. Simplify $(3x - 2)(2x + 3)$

68. Simplify $\dfrac{32x^3yz^2}{20xyz}$

69. Simplify $(-4x^5)^3$

70. Simplify $(3x^3y)^2(-2xy^3)^3$