

Summer Packet for CP Algebra 1

The following worksheets are intended as a **review** for you in preparation for the first day of class. Fractions, positive and negative numbers, distributive property, order of operations, and solving basic one and two step equations are basic concepts that are assumed to be mastered prior to this class. Please have these worksheets completed (without the aid of a calculator) and bring them with you on the first day of class, August 18, 2021. Selected answers are provided for you to check.

If you need some assistance or further explanation, here are the web addresses for Khan Academy lessons that might be helpful. Adding, Subtracting, Fractions:

http://www.khanacademy.org/math/arithmetic/absolutevalue/adding_subtracting_negatives/v/negative-numbers-introduction

http://www.khanacademy.org/math/arithmetic/absolutevalue/mult_div_negatives/v/multiplying-positive-and-negative-numbers

http://www.khanacademy.org/math/arithmetic/fractions/Adding_and_subtracting_fractions/v/adding-fractions-with-like-denominators

http://www.khanacademy.org/math/arithmetic/multiplicationdivision/order_of_operations/v/introduction-to-order-of-operations

Have a great rest of the summer and we look forward to seeing you in the Fall!

The CCHS Math Department and your CP Algebra 1 teachers

Summer Packet #1
Signed Numbers

No Calculators are to be used.

Simplify.

1) $-4 + -5$

2) $10 - (-5)$

3) $17 - 12$

4) $-6 + 1$

5) $31 - (-6)$

6) $15 - (-45)$

7) $8 + (-5)$

8) $-5 + (-4)$

9) $14 + 7 + (-4)$

10) $15 + (-3)$

11) $-4 + 4$

12) $-6 + 10 + (-8)$

13) $7 + (-8)$

14) $-10 + (-10)$

15) $23 + (-6) + 2$

16) $3x + 12x$

17) $-11x + (-9x)$

18) $-12x + (-4x) + (-5x)$

19) $(-3) + (-3)$

20) $5x + 8x + (-5x) =$

21) $-8 - 7 - 12$

22) $11 + (-14)$

23) $4a + 9a + (-13a)$

24) $5 - 12 + 7$

25) $-12 + (-18)$

26) $20x + (-9x) + 3x$

27) $6 + (-4) + (-9) + 7$

28) $1 + (-5)$

29) $6x + 12x + (-7x)$

30) $-9 + (-5) + 14 + (-6)$

Find each product.

31) $4 \cdot 7 =$

32) $6(9) =$

33) $0(-1) =$

34) $-3 \cdot 4 =$

35) $7 \cdot (-3) =$

36) $5(-8) =$

37) $(-5)9 =$

38) $(-11)(-7) =$

39) $2(-4)(-6) =$

40) $(-5)(-5)4 =$

41) $(-2)(-4)(3)(-3) =$

42) $3(-7)(2) =$

Find each quotient.

43) $100 \div 25 =$

44) $-35 \div (-7) =$

45) $121 \div (-11) =$

46) $-30 \div 15 =$

47) $0 \div (-1) =$

48) $240 \div -8 =$

49) $-48 \div -6 =$

50) $36 \div (-4) =$

51) $(-30) \div (-(-15)) =$

52) $(-72) \div 9 =$

53) $(-24) \div (-8) =$

54) $(-25) \div (-5) =$

Decide whether the statement is always, sometimes or never true.

55. The sum of two negative numbers is negative.

56. The quotient of two negative numbers is negative.

57. The product of three negative numbers is positive.

58. The difference of a positive number and a negative number is positive.

Summer Packet #2
Order of Operations

No Calculators are to be used.

Simplify.

1) $7 + 5(7) + 2$

2) $9 + 7(3) - 18 \div 6$

3) $4 \cdot 3^2 + 2$

4) $23 - [25 - (7 - 3)]$

5) $2(5)(4) - 8(3)$

6) $16 \div 8 + 14(2) - 28$

7) $25 - 2(7 - 3)$

8) $\frac{4(8 - 2)}{3 + 9}$

9) $\frac{6 \cdot 7 - 21}{3}$

10) $2[10 - (4 - 2)]$

11) $42 - \frac{144}{6 + 6}$

12) $4 + 3(15 - 2^3)$

13) $8 + 7 \cdot 9$

14) $12 + 4^2$

15) $35 - (17 - 2) \div 5$

16) $24 - 9 \cdot 2 + 6 \div 3$

17) $\frac{10 - 22}{28 - 4}$

18) $\frac{45}{9} + 3 - 2$

19) $12(2 + 7) - 24 \div 12$

20) $4(9 - 3) \div (8 - 2)$

21) $26 - [(25 - 11) - 2^3]$

22) $(8^2 - 2^5) \div (24 \div 6) + 3^2$

23) $\frac{12(30 - 12)}{3^2}$

24) $\frac{5(16 - 5) - 1}{4^2 - 7}$

Summer Packet #3
Evaluating Expressions

No Calculators are to be used.

Evaluate the following expressions for the given values.

1) $4s - t$, for $s = 3$ and $t = -9$

2) $\frac{2t - 3s}{4}$, for $s = 2$ and $t = 6$

3) $5x - 3y$, for $x = \frac{3}{5}$ and $y = \frac{2}{3}$

4) $t^2 - s^4$, for $s = -2$ and $t = 3$

5) $\frac{a + 2b}{5}$ for $a = -1$ and $b = -2$

6) $x + 3y^2$ for $x = 3$ and $y = -2$

7) $b^2 - 4ac$ for $a = 1$, $b = 4$, and $c = 2$

8) $-\frac{b}{2a}$ for $b = 4$ and $a = 2$

9) $b^2 - 4ac$ for $a = 2$, $b = -3$, and $c = 2$

10) $-\frac{b}{2a}$ for $b = -12$ and $a = 3$

11) $a^2 + b^2$ for $a = 3$ and $b = 3$

12) $\frac{y_2 - y_1}{x_2 - x_1}$ for $y_2 = 4, y_1 = 1, x_2 = -6,$ and $x_1 = 0$

13) $\sqrt{b^2 - 4ac}$ for $a = 1, b = -1$ and $c = -12$

14) $\sqrt{a^2 + b^2}$ for $a = 6$ and $b = -8$

15) $5x - 8$ for $x = 6$

16) $3x - 2y + z$ for $x = -2, y = 4, z = 5$

17) $\sqrt{3x} + y^3$ for $x = 3$ and $y = -2$

18) $-2xyz$ for $x=2, y = -3,$ and $z=4$

Summer Packet #4

Distributive Property and Adding Like Terms

No Calculators are to be used.

Use the Distributive Property to simplify.

1) $3(x - 4)$

2) $2(3x - 7y)$

3) $(2 - 5y)(-3)$

4) $-(4m - 8)$

Simplify by Adding Like Terms.

5) $8x + 3 - 2x$

6) $x - 2y + 6y - 5x$

7) $2a + 6b + 7a - 2b$

8) $(2x + 5) + (3 + 3y) + (4x + 7y)$

9) $(4y - 3x + 13) - (2x - y + 9)$

Apply the Distributive Property first, then simplify by adding like terms.

10) $-5x + 4(3x - 7)$

11) $5(c - 3) + 7c$

12) $4(2x + 3) - 19$

13) $-5 - 3(2k - 8)$

14) $7 + \frac{1}{5}(20x - 10)$

15) $\frac{1}{2}(12n - 10) - 2n$

16) $6m + 3(2m + 5) + 7$

17) $7(2 + 3x) + 8$

18) $5(m + 9) - 4 + 8m$

$$19) 9 + 5(4x + 4)$$

$$20) 3m + 2(5 + m) + 5m$$

$$21) 12 + 3(x + 8)$$

$$22) 6m + 14 + 3(3m + 7)$$

$$23) 3(7x + 2) + 8x$$

$$24) 4(2m + 6) + 3(3 + 5m)$$

$$25) -3(-2x + y) + 6x - 4y$$

$$26) 11(r - 9) + 99 - 10r$$

$$27) -7(2x + 4) + 10x - 9$$

$$28) 23x - 10 + 4(-2y + 3x) + 8y$$

$$29) 6(x - 9) + 4(x - 6) + 23x + 9$$

$$30) -80x + 9(9x - 4)$$

$$31) -2(16 - 8d)$$

$$32) \frac{1}{2}(12 - 30d)$$

$$33) -5(m - 6)$$

$$34) -5x + 4(3x - 7)$$

$$35) \frac{1}{2}(6n - 4) - 2n$$

$$36) 1 - 3(x - 4)$$

Summer Packet #5
Solving One-Step Equations

Solve the following One-Step Equations.

State which property was used: Addition Property of Equality(APE) or Multiplication Property of Equality(MPE). Show your work!

1. $x + 4 = 9$

2. $x - 15 = 28$

3. $2x = 12$

4. $-5x = 30$

5. $-3 + x = 17$

6. $\frac{2}{3}x = 24$

7. $0 = 11x$

8. $-3 = \frac{x}{6}$

9. $-10 = m - 7$

10. $-8x = -20$

11. $-8 + t = 8$

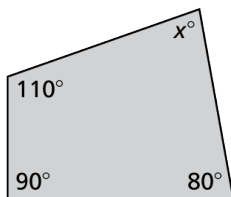
12. $\frac{m}{3} = -12$

13. $15 = \frac{3}{4}x$

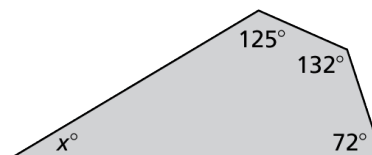
14. $x - \frac{3}{7} = \frac{4}{7}$

The sum of the angle measures of a quadrilateral is 360° . Write/solve an equation to find the value of x .

15.



16.



For problems 17-18, read the problem carefully.

a. Define variables and set up a one-step equation.

b. Solve the equation.

c. Write a complete sentence describing the answer in context.

17. Krystal wants to buy a hat that costs \$29. How much change does she receive if she gives the cashier \$100?

18. Anjali was given \$14 for her birthday. She now has \$53. How much money did she start with?

Summer Packet #6
Solving Two-Step Equations

Solve each equation.

1) $2x - 1 = 15$

2) $\frac{1}{2}x + 15 = 11$

3) $-7x + 15 = -34$

4) $10 = -4x + 6$

5) $-x + 3 = -1$

6) $4z + 2 = 10$

7) $1 - 4x = -11$

8) $2w + \frac{1}{3} = \frac{7}{3}$

9) $\frac{x+6}{2} = 5$

10) One cell phone plan costs \$30 per month. Each minute costs you an additional \$0.35. For a bill of \$65.70, how many minutes did you use?

a) What are you solving for? Call it x .

b) Write an equation for the situation.

c) Solve for x .

d) Explain your answer in words.

Selected Answers

- #1** 1. -9 3. 5 5. 37 7. 3 9. 17 11. 0 13. -1 15. 19 17. $-20x$ 19. -6 21. -27 23. 0
25. -30 27. 0 29. $11x$ 31. 28 33. 0 35. -21 37. -45 39. 48 41. -72 43. 4 45. -11
47. 0 49. 8 51. -2 53. 3 55. Always 57. Never
- #2** 1. 44 3. 38 5. 16 7. 17 9. 7 11. 30 13. 71 15. 32 17. $-\frac{1}{2}$ 19. 106 21. 20
23. 24
- #3** 1. 21 3. 1 5. -1 7. 8 9. -7 11. 18 13. 7 15. 22 17. -5
- #4** 1. $3x-12$ 3. $-6+15y$ 5. $6x+3$ 7. $9a+4b$ 9. $-5x+5y+4$ 11. $12c-15$
13. $-6k+19$ 15. $6n-5$ 17. $21x+22$ 19. $20x+29$ 21. $3x+36$ 23. $29x+6$
25. $12x-7y$ 27. $-4x-37$ 29. $33x-69$ 31. $16d-32$ 33. $-5m+30$ 35. $n-2$
- #5** 1. 5 3. 6 5. 20 7. 0 9. -3 11. 16 13. 20 15. 80 17. $X+29=100$; $X=71$
- #6** 1. 8 3. 7 5. 4 7. 3 9. 4