

**Summer Assignment for students ENTERING:
CP Geometry**

Please have the following worksheets completed and ready on the first day of class, August 16, 2023. Make sure you show your work where appropriate. Answers are provided for you to check at the end of this packet; however, you will need to show work on problems that require it. Please neatly organize your work, show all of your work, and place all of your work and answers ON these worksheets. It is expected that you have a good understanding of this material coming into CP Geometry, as teachers will not be doing an extensive review of previously learned material.

As this is an assignment designed to help get the year off to a great start, please wait until late July or early August to complete this assignment.

Have a great summer and we look forward to seeing you in the fall!

The CCHS Math Department

Summer Packet for CP Geometry WS #1
Fractions and Order of Operations – NO CALCULATOR

****You will be quizzed without a calculator****

Add or Subtract

$$1) \frac{1}{4} - \frac{3}{2} =$$

$$2) \frac{5}{6} - \left(-\frac{23}{24}\right) =$$

$$3) \frac{1}{5} + \frac{5}{3} =$$

$$4) -\frac{1}{3} - \frac{4}{3} =$$

Multiply or Divide

$$5) \frac{1}{6} \div \frac{5}{4} =$$

$$6) \frac{-9}{5} \cdot \frac{5}{3} =$$

$$7) \frac{-1}{5} \div \frac{7}{4} =$$

$$8) \frac{20}{9} \cdot \frac{15}{16} =$$

$$9) \frac{-20}{7} \div \left(\frac{-22}{7}\right) =$$

$$10) \frac{1}{14} \cdot \frac{-35}{11} =$$

$$11) \frac{3}{2} \div 6 =$$

$$12) \frac{1}{4} \cdot 8 =$$

Order of operations

13) $(-1) - 10 + 7 =$	14) $\frac{28}{(-9)-(-8)+5} =$
15) $12 + 7(2 + 6) \div 8 - 10 =$	16) $3 + 2 - 16 \cdot 2 + 1 =$
17) $1 - 4^2 - 7 + 12 \cdot 3 \div 9 =$	18) $15 \div 5 \cdot 3(2^3 \div 8 \cdot 5) =$
19) $22 \cdot 14 \cdot 0 \div 6 =$	20) $\frac{5-11+9-(-11)+4^2}{13-8-10} =$

Answers:

1) $-\frac{5}{4}$

2) $\frac{43}{24}$

3) $\frac{28}{15}$

4) $-\frac{5}{3}$

5) $\frac{2}{15}$

6) -3

7) $-\frac{4}{35}$

8) $\frac{25}{12}$

9) $\frac{10}{11}$

10) $-\frac{5}{22}$

11) $\frac{1}{4}$

12) 2

13) -4

14) 7

15) 9

16) -26

17) -18

18) 45

19) 0

20) -6

Summer Packet for CP Geometry WS #2
Solving Linear Equations

Solve each of the following equations. Clear fractions if necessary.

Single Step

1) $x + 12 = 7$	2) $\frac{2}{3}x = 2$
3) $4 - y = 8$	4) $6a = 24$

Multi-Step

5) $4 + 3x = 34$	6) $21 = 4x - 5x + 10$
7) $-2 = -4x + x - 1$	8) $5x + 12 = 22$

$$9) \frac{-20}{7} + 6x - 3x = \frac{22}{7}$$

$$10) \frac{1}{8} - 6x = -\frac{47}{8}$$

$$11) \frac{3x-3}{2} = 6$$

$$12) \frac{2x+6}{4} = 8$$

Distributive Property

$$13) 6(9 + 4x) = 78$$

$$14) 10 - 2(x - 4) = 36$$

$$15) 7(2x + 5) = 28$$

$$16) 3(4 - 5x) + 2 = -16$$

Variables on Both Sides

$$17) 4 + 4x = 7x - 8$$

$$18) 3 + 2x = 4x - 5$$

$$19) 3 - 2(x - 1) = 2 + 4x$$

$$20) 8x - 4 + 3(x + 7) = 6x - 3(x - 3)$$

Answers:

$$1) -5$$

$$2) 3$$

$$3) -4$$

$$4) 4$$

$$5) 10$$

$$6) -11$$

$$7) \frac{1}{3}$$

$$8) 2$$

$$9) 2$$

$$10) 1$$

$$11) 5$$

$$12) 13$$

$$13) 1$$

$$14) -9$$

$$15) -\frac{1}{2}$$

$$16) 2$$

$$17) 4$$

$$18) 4$$

$$19) \frac{1}{2}$$

$$20) -1$$

Summer Packet for CP Geometry WS #3
Solving Systems of Linear Equations

Solve each system using the Substitution Method. Give your answer as an ordered pair.

$$1) \begin{cases} y + 3x = 5 \\ x = 2 \end{cases}$$

$$2) \begin{cases} 2x - 3y = 8 \\ y = 4 \end{cases}$$

$$3) \begin{cases} y = 4x \\ y = -4x - 8 \end{cases}$$

$$4) \begin{cases} y = 3x - 1 \\ y = 2x \end{cases}$$

$$5) \begin{cases} 2y - 9 = 3x \\ y = 3x \end{cases}$$

$$6) \begin{cases} -2y + 2x = -10 \\ y = 6x \end{cases}$$

Solve each system using the Elimination Method. Give your answer as an ordered pair.

$$7) \begin{cases} 3x + 2y = 7 \\ -3x + 5y = 7 \end{cases}$$

$$8) \begin{cases} 3x - 2y = 1 \\ 2x + 2y = 4 \end{cases}$$

$$9) \begin{cases} 6x - 6y = -12 \\ -6x + 2y = -8 \end{cases}$$

$$10) \begin{cases} 5x + 2y = 17 \\ 3x - 2y = 7 \end{cases}$$

$$11) \begin{cases} -5x + y = 15 \\ 2x - y = -9 \end{cases}$$

$$12) \begin{cases} -x + 5y = -10 \\ x - y = 2 \end{cases}$$

Answers:

1) (2, -1)

2) (10, 4)

3) (-1, -4)

4) (1, 2)

5) (3, 9)

6) (1, 6)

7) (1, 2)

8) (1, 1)

9) (3, 5)

10) (3, 1)

11) (-2, 5)

12) (0, -2)

Summer Packet for CP Geometry WS #4
Polynomial Operations and Factoring GCFs

Add or Subtract the polynomials:

1. $(4x^3 + 6x^2 - 9x) + (x^2 - 2x^3 + 10)$	2. $(x^3 + 6x^2) - (2x^2 + 4x^3)$
3. $(4x^2 - 2x - 8) - (7x^2 - 2x - 6)$	4. $5x^3 - 7x^2 + 4x^3 - 2x^2$

Multiply the following:

5. $3x^2(2x^2 - x + 5)$	6. $(2x - 6)(3x + 5)$
7. $(x + 5)(x - 5)$	8. $(x - 3)(x + 7)$
9. $(2x - 1)(2x + 1)$	10. $(3x - 4)(x + 5)$

11. $(x - 3)(2x + 7)$	12. $(x - 5)(3x^2 - 2x + 5)$
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Factor out a GCF:

13. $12x + 6$	14. $6x^2 - 3x$
15. $8x^3 - 12x$	16. $2x^4 + 18x^3$
17. $5x^2y - 10xy$	18. $3a^2b - 6ab + 9b$
19. $2x^4y + 6x^2y^2$	20. $5a^2b^4 - 10ab^2 + 35ab$

Answers:

- | | | | |
|----------------------------|------------------------|-----------------------|-------------------------------|
| 1) $2x^3 + 7x^2 - 9x + 10$ | 2) $-3x^3 + 4x^2$ | 3) $-3x^2 - 2$ | 4) $9x^3 - 9x^2$ |
| 5) $6x^4 - 3x^3 + 15x^2$ | 6) $6x^2 - 8x - 30$ | 7) $x^2 - 25$ | 8) $x^2 + 4x - 21$ |
| 9) $4x^2 - 1$ | 10) $3x^2 + 11x - 20$ | 11) $2x^2 + x - 21$ | 12) $3x^3 - 17x^2 + 15x - 25$ |
| 13) $6(2x + 1)$ | 14) $3x(2x - 1)$ | 15) $4x(2x^2 - 3)$ | 16) $2x^3(x + 9)$ |
| 17) $5xy(x - 2)$ | 18) $3b(a^2 - 2a + 3)$ | 19) $2x^2y(x^2 + 3y)$ | 20) $5ab(ab^3 - 2b + 7)$ |