

## CP Geometry Summer Packet

Below are links to videos to help review some of the topics included in this packet:

<https://www.khanacademy.org/math/algebra-basics/alg-basics-linear-equations-and-inequalities>

<https://www.khanacademy.org/math/basic-geo/basic-geo-lines>

<https://www.khanacademy.org/math/basic-geo/basic-geo-angle>

**Important Vocabulary** - define each word, write the notation, and sketch a picture

<i>Define the Word</i>	<i>Write the notation</i>	<i>Sketch a Picture</i>
<b>Point</b>	N/A	<b>Point A:</b>
<b>Line</b>	<b>Line AB:</b>	<b>Line AB:</b>
<b>Plane</b>	N/A	<b>Plane ABC:</b>
<b>Line Segment</b>	<b>Segment AB:</b>	<b>Segment AB:</b>
<b>Ray</b>	<b>Ray AB:</b>	<b>Ray AB:</b>
<b>Angle</b>	<b>Angle ABC:</b>	<b>Angle ABC:</b>
<b>Collinear</b>	N/A	

<i>Define the Word</i>	<i>Write the notation</i>	<i>Sketch a Picture</i>
<b>Coplanar</b>	N/A	
<b>Congruent</b>	N/A	
<b>Bisector</b>	N/A	
<b>Perpendicular</b>	Line AB is perpendicular to line CD:	
<b>Parallel</b>	Line AB is parallel to line CD:	
<b>Vertical Angles</b>	N/A	
<b>Adjacent Angles</b>	N/A	
<b>Acute Angle</b>	N/A	
<b>Right Angle</b>	N/A	
<b>Obtuse Angle</b>	N/A	

<i>Define the Word</i>	<i>Write the notation</i>	<i>Sketch a Picture</i>
<b>Complementary Angles</b>	N/A	
<b>Supplementary Angles</b>	N/A	
<b>Linear Pair</b>	N/A	

1. How many letters do you need to name an angle? How can you tell which letter should go in the middle?
2. How many letters do you need to name a line, line segment or ray?
3. What is the difference between MN and  $\overline{MN}$ ? What does each one mean?
4. Sketch a picture where angle SUN is vertical to angle HUG.

**Solve each equation.**

1)  $-4v - 3 + 3v = 1$

2)  $-11 = 1 - 2x - 4x$

3)  $n - 3 - 1 = -7$

4)  $2k + 4k = 0$

5)  $3(3 - 3n) = 45$

6)  $-56 = -4(4m + 2)$

7)  $51 = 3(4x + 1)$

8)  $-4(-3r - 1) = -44$

9)  $6n - 2 + 5n = -13$

10)  $19 = 5m + 1 - 2$

11)  $8 = -2n + n$

12)  $-4b - 2b = -18$

13)  $6 - 3k = 9(-5k - 4)$

14)  $3 - 3b = 3(1 - b)$

15)  $4x = -6(6x - 6) + 4x$

16)  $-7(n + 8) = 4 + 3n$

$$17) -5b + 7b = 3b + 3$$

$$18) -1 - 2n = 6 - 3n$$

$$19) 12 + 2b = 3 + 4b + 7b$$

$$20) 4n - 2n = 1 + 8n - 7n + 7$$

$$21) 2v - 8(1 - 7v) = -8 + 3v$$

$$22) 8(4v - 3) = 26 + 7v$$

$$23) 7(a - 3) = 7 + 3a$$

$$24) -4(5v + 1) = 13 - 3v$$

$$25) -7(n - 2) + 6(-6n - 4) = -53$$

$$26) 7(5 + 7r) - 7(7r - 3) = 3$$

$$27) -27 = 3(-4m + 3) - (1 - 7m)$$

$$28) 2(7v + 4) + 2(3 - 5v) = -6$$

$$29) 22 - 8v = -8(v - 3) - v$$

$$30) -5 - 6(r - 6) = -39 + r$$

**Solve each proportion.**

$$31) \frac{5}{3} = \frac{4}{r}$$

$$32) \frac{3}{4} = \frac{5}{k}$$

$$33) \frac{v}{3} = \frac{6}{4}$$

$$34) \frac{6}{3} = \frac{v}{6}$$

$$35) \frac{b+9}{5} = \frac{10}{9}$$

$$36) \frac{12}{6} = \frac{9}{b-12}$$

$$37) \frac{6}{b-7} = \frac{4}{2}$$

$$38) \frac{3}{a+4} = \frac{6}{11}$$

$$39) \frac{2}{3} = \frac{m}{m-2}$$

$$40) \frac{3}{2} = \frac{b-6}{b}$$

$$41) \frac{p+3}{p} = \frac{9}{11}$$

$$42) \frac{x}{5} = \frac{x+1}{9}$$

$$43) \frac{x+7}{x+9} = \frac{5}{7}$$

$$44) \frac{x+5}{4} = \frac{x-6}{8}$$

$$45) \frac{3}{6} = \frac{a+9}{a-2}$$

$$46) \frac{n+7}{n+9} = \frac{11}{13}$$

## Answers to CP Geometry Summer Packet

- |                                   |                                    |                                  |                                    |
|-----------------------------------|------------------------------------|----------------------------------|------------------------------------|
| 1) $\{-4\}$                       | 2) $\{2\}$                         | 3) $\{-3\}$                      | 4) $\{0\}$                         |
| 5) $\{-4\}$                       | 6) $\{3\}$                         | 7) $\{4\}$                       | 8) $\{-4\}$                        |
| 9) $\{-1\}$                       | 10) $\{4\}$                        | 11) $\{-8\}$                     | 12) $\{3\}$                        |
| 13) $\{-1\}$                      | 14) $\{\text{All real numbers.}\}$ | 15) $\{1\}$                      |                                    |
| 16) $\{-6\}$                      | 17) $\{-3\}$                       | 18) $\{7\}$                      | 19) $\{1\}$                        |
| 20) $\{8\}$                       | 21) $\{0\}$                        | 22) $\{2\}$                      | 23) $\{7\}$                        |
| 24) $\{-1\}$                      | 25) $\{1\}$                        | 26) No solution.                 | 27) $\{7\}$                        |
| 28) $\{-5\}$                      | 29) $\{2\}$                        | 30) $\{10\}$                     | 31) $\left\{\frac{12}{5}\right\}$  |
|                                   |                                    |                                  | 35) $\left\{-\frac{31}{9}\right\}$ |
| 32) $\left\{\frac{20}{3}\right\}$ | 33) $\left\{\frac{9}{2}\right\}$   | 34) $\{12\}$                     | 39) $\{-4\}$                       |
| 36) $\left\{\frac{33}{2}\right\}$ | 37) $\{10\}$                       | 38) $\left\{\frac{3}{2}\right\}$ |                                    |
| 40) $\{-12\}$                     | 41) $\left\{-\frac{33}{2}\right\}$ | 42) $\left\{\frac{5}{4}\right\}$ | 43) $\{-2\}$                       |
| 44) $\{-16\}$                     | 45) $\{-20\}$                      | 46) $\{4\}$                      |                                    |