



Name: \_\_\_\_\_

## CCSD Math Summer Calendar

### Entering 7<sup>th</sup> Grade

-Complete the Math Calendar and return to your math teacher on the first day of school.

-You may finish these at your own pace. Each week has a topic with a helpful, optional tutorial video link.

-Show ALL WORK on a separate sheet of paper with problem numbers clearly labeled

#### Week of June 1<sup>st</sup>: Integers

##### Video Links:

<https://www.youtube.com/watch?v=g5ZGDNxJwxA>

<https://www.mathsisfun.com/sets/real-number-properties.html>

##### Problem 1a: Simplify each of the following

- |                 |                    |
|-----------------|--------------------|
| a. $3 \times 0$ | h. $-5 \div 1$     |
| b. $4 - 1$      | i. $-5 \div -1$    |
| c. $-4 + 20$    | j. $-100 \times 0$ |
| d. $-15 - 5$    | k. $12 \times 3$   |
| e. $-1 - 0$     | l. $-4 \times -5$  |
| f. $-1 - (1)$   | m. $8 \times 0$    |
| g. $-1 - (-1)$  | n. $6 \times -5$   |

##### Problem 2a: Which Property of Addition does $7 + 0 = 7$ illustrate?

- |                          |                      |
|--------------------------|----------------------|
| A. Distributive Property | B. Identity Property |
| C. Commutative Property  | D. Zero Property     |

##### Problem 3a: Which equation shows the Identity Property of Multiplication?

- |                             |                                |
|-----------------------------|--------------------------------|
| A. $a(b + c) = ab + ac$     | B. $(a + b) + 4 = a + (4 + b)$ |
| C. $a + a + a = 3 \times a$ | D. $a \times 1$                |

##### Problem 4a: Which of the following does not show the Commutative Property?

- |                    |                    |
|--------------------|--------------------|
| A. $2 + y = y + 2$ | B. $yx = xy$       |
| C. $xy - 5 = xy$   | D. $x + y = y + x$ |

**Problem 5a:** Which is an example of Associative Property of Addition?

A.  $5 + 0 = 5$

B.  $4 + 3 = 3 + 4$

C.  $(3 + 8) + 6 = 3 + (8 + 6)$

D.  $2 + (-2) = 0$

**Week of June 8<sup>th</sup>: Fractions**

**Video Links:**

<https://www.youtube.com/watch?v=mO53rHEIQR4>

<https://www.youtube.com/watch?v=tDQipFjAoT8>

**Problem 1b:** a.  $\frac{2}{4} + \frac{1}{4}$       b.  $\frac{2}{3} + \frac{1}{3}$       c.  $\frac{2}{3} - \frac{1}{3}$       d.  $\frac{2}{4} - \frac{1}{4}$

**Problem 2b:** a.  $\frac{2}{3} + \frac{1}{2}$       b.  $\frac{3}{5} + \frac{1}{3}$       c.  $\frac{2}{3} - \frac{1}{2}$       d.  $\frac{4}{3} - \frac{1}{3}$

**Problem 3b:** a.  $\frac{3}{5} \times \frac{10}{21}$       b.  $1\frac{3}{5} \times \frac{10}{21}$       c.  $\frac{1}{2} \div \frac{3}{4}$       d.  $2\frac{2}{5} \div 3\frac{3}{5}$

**Problem 4b:** a.  $\frac{3}{5} \times \frac{10}{21} + \frac{1}{2}$       b.  $\frac{1}{4} \div 5 - \frac{4}{5}$

**Problem 5b:** Order the following fractions in the required order.

1)  $2\frac{3}{6}, \frac{12}{25}, 1\frac{3}{4}, -\frac{48}{50}, \frac{3}{8}$   
greatest  $\longrightarrow$  least

2)  $\frac{2}{20}, \frac{11}{25}, \frac{1}{2}, \frac{2}{3}, -1\frac{2}{4}$   
greatest  $\longrightarrow$  least

3)  $1\frac{3}{4}, 2\frac{1}{8}, 1\frac{4}{9}, 1\frac{4}{20}, -\frac{8}{50}$   
greatest  $\longrightarrow$  least

4)  $1, -\frac{4}{10}, \frac{3}{9}, -1\frac{2}{5}, -\frac{95}{100}$   
least  $\longrightarrow$  greatest

**Week of June 15<sup>th</sup>: Exponents & Expressions**

**Video Link:** <https://www.khanacademy.org/math/pre-algebra/pre-algebra-exponents-radicals/pre-algebra-exponents/v/introduction-to-exponents>

**Simplify your answer to the lowest term possible**

**Problem 1c:** a.  $X^1 \times X^1$       b.  $2^3 \times 2^2$       c.  $y^{-1} \times y^3$       d.  $a^{-5} \times a^{-2}$

**Problem 2c:** a.  $X \div X^1$       b.  $2^3 \div 2^2$       c.  $y^{-1} \div y^3$       d.  $a^{-5} \div a^{-2}$

**Problem 3c:** a.  $\left(\frac{a^3}{a^0}\right)$       b.  $\left(\frac{5^3}{5^{-2}}\right)$       c.  $\left(\frac{X^3y}{y^23x^3}\right)$

**Problem 4c:** a.  $-8(-2 - 5p) + 6p$     b.  $2 - 5q + 7q$     c.  $5h + 8h - 9$

**Problem 5c:** a.  $7f - f$       b.  $-7(5y + 6)$     c.  $8 - 9c - 5 - 6c$     d.  $-8(6m - 5) - 2m$

**Week of June 22<sup>nd</sup>: Equations**

**Video Link:** <https://www.mathsisfun.com/algebra/introduction.html>

**Problem 1d:** a.  $x + 2 = 10$       b.  $3x = -15$       c.  $-4 + x = 12$       d.  $\frac{x}{-3} = -6$

**Problem 2d:** a.  $p - (-27) = 13$       b.  $41 = 32 - r$       c.  $\frac{2}{3}X = -16$       d.  $-\frac{1}{2}X = \frac{2}{3}$

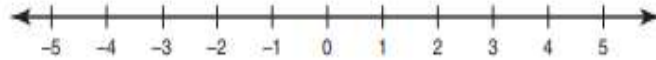
**Problem 3d:** a.  $6(6n + 2) - 6n = 252$       b.  $-3x - 4(4x + 6) = -119$

**Problem 4d:** Evaluate the following where  $x = -3$  and  $y = 2$

a.  $3x - y^2$       b.  $2x^2 + 3xy$       c.  $4(y + x)^2$

**Problem 5d:**

Solve  $3x + 7 \geq -5$ . Then, graph the solution on a number line.



**Week of June 29<sup>th</sup>: Rates & Ratios**

**Video Link:** <https://www.youtube.com/watch?v=HpdMJJaKaXXc>

**Problem 1e:** The ratio of goldfish to gallons of water is 9 to 4.

- a. For every \_\_\_\_\_ goldfish, there are \_\_\_\_\_ gallons of water.
- b. Fill in the table.

Fish	Gallons of Water
9	4
18	

- c. How many goldfish can you get if you have 12 gallons of water?
- d. How many gallons of water do you need to keep 36 fish?

**Problem 2e:** For every 5 yards you run, Jill runs 6 yards.

- a. If you have run 30 yards, then how far has Jill run?

b. If Jill has run 54 yards, then how far have you run?

**Problem 3e:** 570 people die from smoking related diseases every day.

- How many people die from smoking related diseases every hour?
- How many people die from smoking related diseases every week?
- How many people die from smoking related diseases every year?

(Hint: There are 365 days in a year.)

### Week of July 6<sup>th</sup>: Statistics

**Video Link:** <https://www.youtube.com/watch?v=A1mQ9kD-i9I>

**Problem 1f:** Use the following to find: 2, 9, 4, 8, 6, 1, 5

Mean \_\_\_\_ Median \_\_\_\_ Mode \_\_\_\_\_ Range \_\_\_\_

**Problem 2f:** Box Plot Task

Please use the link below to access a box plot activity:

<https://www.desmos.com/calculator/h9icuu58wn>

**Problem 3f:** <https://www.youtube.com/watch?v=mhaGAaL6Abw>

Use the following data to create a box plot: 10, 1, 5, 6, 5, 8, 3, 3, 6, 5

**Problem 4f:** <https://www.youtube.com/watch?v=MUCvUgGfzdo>

Use the following to create a stem & leaf plot:

9, 10, 12, 11, 20, 21, 22, 23, 23, 24, 31, 31, 32, 35, 38, 39

**Problem 5f:** <https://www.youtube.com/watch?v=MUCvUgGfzdo>

Use the following to create a stem & leaf plot:

3, 5, 8, 10, 11, 12, 12, 12, 15, 18, 21, 23, 32, 35, 35, 35, 36, 42, 65, 87

### Week of July 13<sup>th</sup>: Triangles & Angles

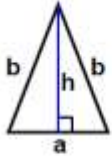
**Video Link:**

<https://www.mathsisfun.com/geometry/triangles-interactive.html>

<https://www.mathsisfun.com/algebra/trig-area-triangle-without-right-angle.html>

**Problem 1g:** Identify the type of triangle and calculate its Area and Perimeter

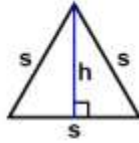
1)



$a = 48 \text{ cm}$     $b = 71 \text{ cm}$   
 $h = 64.7 \text{ cm}$

Area: \_\_\_\_\_  
 Perimeter: \_\_\_\_\_  
 Type: \_\_\_\_\_

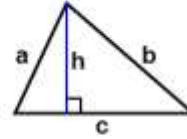
2)



$s = 63 \text{ mm}$   
 $h = 54.6 \text{ mm}$

Area: \_\_\_\_\_  
 Perimeter: \_\_\_\_\_  
 Type: \_\_\_\_\_

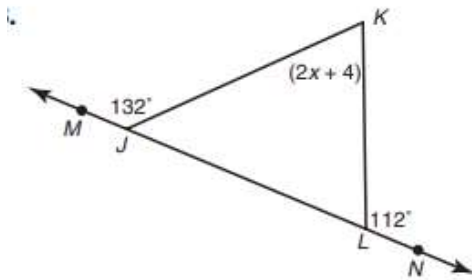
3)



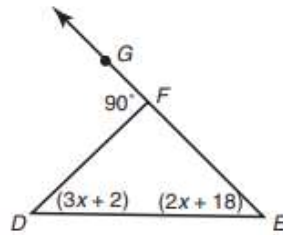
$a = 58.55 \text{ ft}$     $b = 80.9 \text{ ft}$   
 $c = 86 \text{ ft}$     $h = 53 \text{ ft}$

Area: \_\_\_\_\_  
 Perimeter: \_\_\_\_\_  
 Type: \_\_\_\_\_

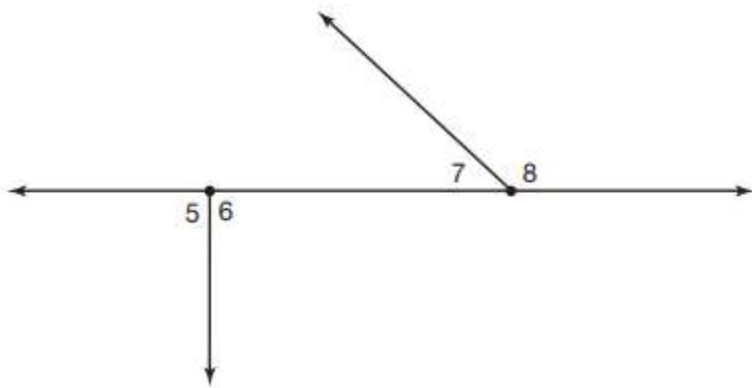
**Problem 2g:** Find the missing angles



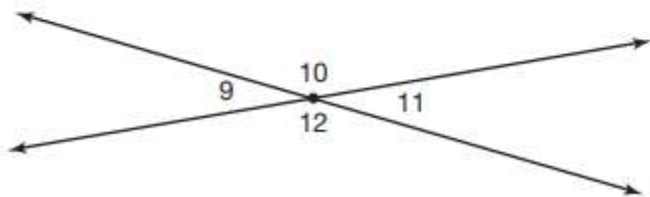
24.



**Problem 3g:** Name the pairs of Adjacent angles for each figure below:

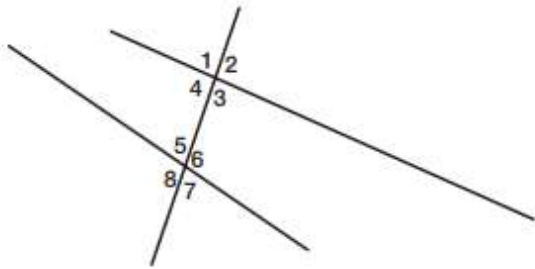


1. Name all pairs of adjacent angles in the diagram shown.



**Problem 4g:**

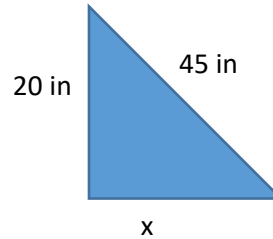
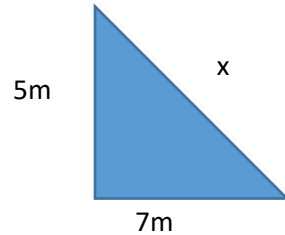
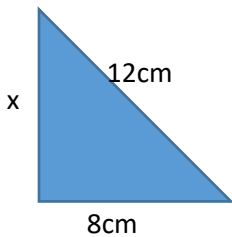
The figure shown includes pairs of supplementary angles and pairs of vertical angles.



a. The measure of  $\angle 1$  is  $85^\circ$ . What are  $m\angle 2$ ,  $m\angle 3$ , and  $m\angle 4$ ? Explain your reasoning.

b. The measure of  $\angle 5$  is  $80^\circ$ . Name a linear pair that includes  $\angle 5$ . Write the measure of each angle in the linear pair.

**Problem 5g:** Using Pythagorean Theorem find the missing lengths:



<https://www.mathsisfun.com/geometry/pythagorean-theorem-proof.html>

**Week of June 20<sup>th</sup>: Word problems on Rate**

**Video Link:**

[https://www.khanacademy.org/math/pre-algebra/pre-algebra-ratios-rates/pre-algebra-rates/e/rate\\_problems\\_0.5](https://www.khanacademy.org/math/pre-algebra/pre-algebra-ratios-rates/pre-algebra-rates/e/rate_problems_0.5)

<https://www.khanacademy.org/math/pre-algebra/pre-algebra-ratios-rates/pre-algebra-rates/v/multiple-rates-word-problem>

**Problem 1h:** Henry can write 5 pages of his novel in 3 hours. At this rate, how many pages can Henry write in 8 hours? (You can express your answer in fraction or decimal form)

**Problem 2h:** Alicia drove at a constant speed and traveled 183 miles in 3 hours. How many miles would Alicia travel in 11 hours at the same speed?



**Problem 3h:** At the market, 5 light bulbs cost \$9. How much do 7 light bulbs cost?

**Problem 4h:** It takes 54 minutes for 4 people to paint 6 walls. How many minutes does it take 6 people to paint 7 walls?

**Problem 5h:** It takes 41 minutes for 9 people to paint 9 walls. How many minutes does it take 14 people to paint 14 walls?