Summer 2026 Math Packet

Rising 8th Grade : 7 Pre–Algebra H/Sandoz –to 8th Grade Algebra Honors

Due Date: September 11, 2026

This summer, we encourage you to continue to practice your mathematics at home. Practicing math skills over the summer can keep the brain's pathways for computation and mathematical vocabulary strong.

This summer, you will complete:

- ☐ ***8th Grade Algebra Pre-requisite Skills Packet (attached)***
- ☐ ***Delta Math Assignments - see list below - digital platform***

- ➢ *Summer assignments will be completed using the attached skill sheets & the Delta Math digital platform.*
- ➢ *You already have a Delta Math Account, so sign in to your existing school account with Google. Complete the "Summer Math 2026 Pre-Alg Honors" Delta Math assignment.*
- ➢ *Feel free to use the sample problems and videos in Delta Math. Khan Academy is also a good source for support. The "Math with Mr. J" YouTube site is also great! https://www.youtube.com/@MathwithMrJ*
- ➢ *This is not calculator work. Write your process.*
- ➢ *Be neat and organized! Part of success in math is organization and keeping track of your calculations and steps.*
- ➢ *Follow the suggested pacing guide. Feel free to work in a different order if something is confusing you and go back to it later.*

Delta Skills (22 skills - 5 problems for each - estimated time - 3 hours):

PEMDAS (Integers with Exponents), Guided	Negative Exponents (Type 1)
PEMDAS (Integers with Exponents)	Substitution (Level 1)
Match Context to Equation (Whole Number)	Write Expression from Context (mx+b)
Two Step Equations	Elimination (Level 1)
Two Step Equations with Decimals	Combine Like Terms (Basic - Guided)
Fractional Linear Equations	Combine Like Terms (Basic, Integers)
Two Step Equations with Fractional Coefficients (L1)	Equivalent Expressions
Vertical/Adjacent/Complementary Angles (Algebraic)	Simplifying Radicals
Similar Figures / Proportion (Level 1)	Exponent Rules (Variable and Coefficients)
Three Step Linear Equations	Basic Square and Cubic Equations
One Var Equations: 1, 0, Infinite Solutions (L1)	
Evaluate Exponents, Pos/Neg Base	

Have a great summer, and we will see you in September!



Suggested Pacing

You can do the Delta in any order you would like!

Week 1	July 6	**Packet Pages 3-5** **Delta -3 skills**
Week 2	July 13	**Packet Pages 6-8** **Delta -3 skills**
Week 3	July 20	**Packet Pages 9-11** **Delta -3 skills**
Week 4	July 27	**Packet Page 12** **Delta -3 skills**
Week 5	August 3	**Packet Pages 13-14** **Delta -3 skills**
Week 6	August 10	**Page 15-16** **Delta -3 skills**
Week 7	August 17	**Page 17** **Delta -4 skills**
Week 8	August 24	**Finish up and review your work!**

Eureka Math² Equip Pre-Assessments
Algebra 1

These pre-assessments are designed to help you review and strengthen the foundational skills you'll need for success in Algebra 1. If you need support, feel free to use your practice workbooks from this school year, your portfolio of assessments, or reliable online resources.

1.

Write an expression that is equivalent to $-\frac{5}{2}(3x + 6) + \frac{1}{2}(x + 4)$ by using the fewest terms possible.

2.

Solve the equation for x.

$$\frac{5}{6}x + 1 = \frac{2}{3}x - 7$$

3.

Which inequality has the same solution set as $-3x + 9 < 5$?

A. $x < \frac{4}{3}$

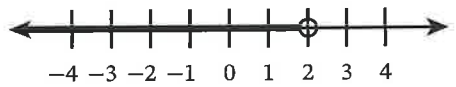
B. $x > \frac{4}{3}$

C. $x < -\frac{14}{3}$

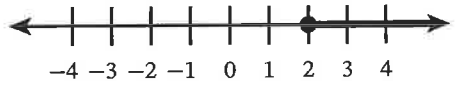
D. $x > -\frac{14}{3}$

4. Which number line shows the graph of the solution set of $x < 2$?

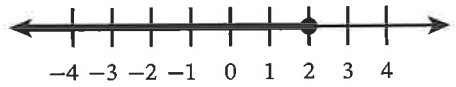
A.



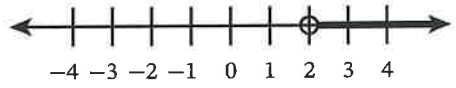
B.



C.



D.



5.

Kadir spends \$44.47. He buys a cellphone charger for \$17.50 and x cellphone cases for \$8.99 each.

Which equation can be used to find the number of cellphone cases Kadir buys?

A. $8.99x - 17.50 = 44.47$

B. $8.99x + 17.50 = 44.47$

C. $17.50x - 8.99 = 44.47$

D. $17.50x + 8.99 = 44.47$

6.

The data set shows the fuel economy in miles per gallon for different types of cars.

49 20 53 25 29 24 56 52 30 43 33 52 48 32

Fill in each blank to complete each statement. Round your answers to the nearest whole number if necessary.

The mean fuel economy for the cars in the data set is _____ miles per gallon.

The range of fuel economy for the cars in the data set is _____ miles per gallon.

7.

Consider the line represented by the table.

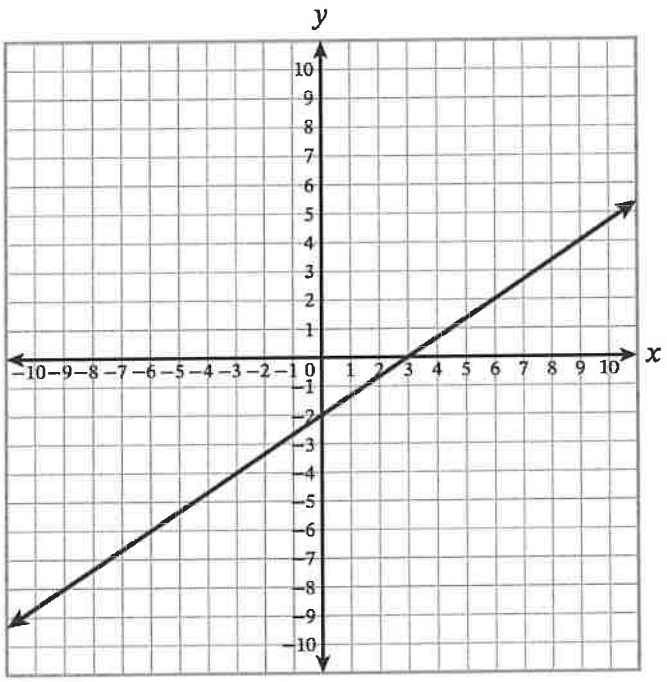
x	y
−6	51
−2	19
0	3
5	−37
10	−77

Complete the equation of the line.

$y =$ _____ $x +$ _____

8.

Consider the graph shown.



Which equation represents the line?

A. $y = \frac{2}{3}x + 2$

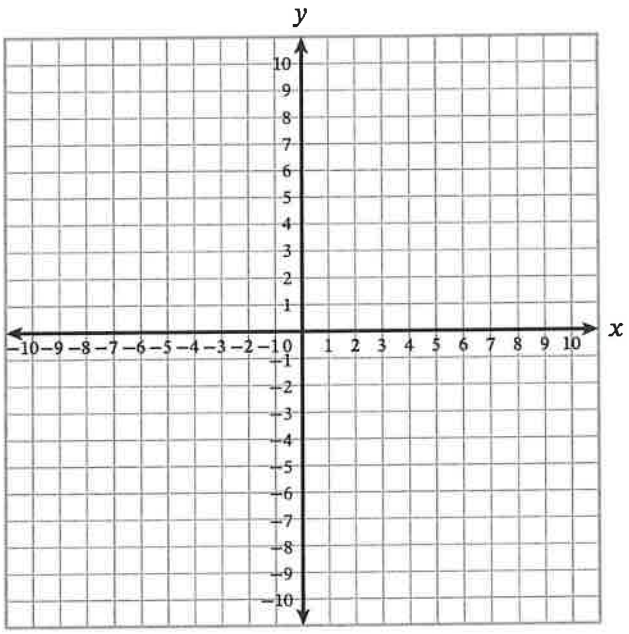
B. $y = -\frac{2}{3}x - 2$

C. $y = \frac{2}{3}x - 2$

D. $y = \frac{3}{2}x - 2$

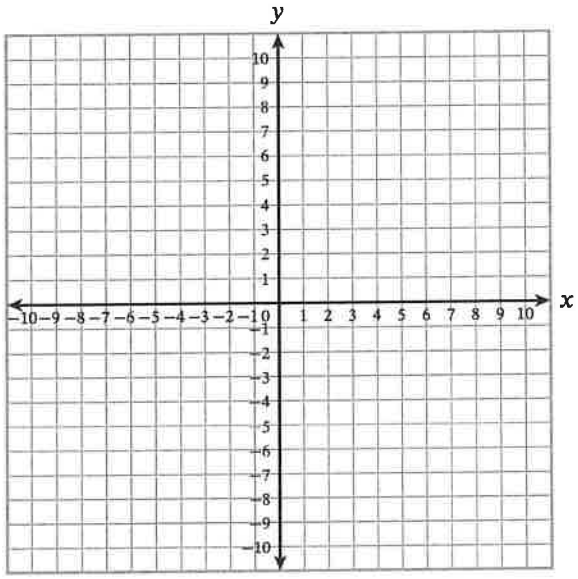
9.

Graph the equation $y = -\frac{4}{3}x + 8$.



10.

Graph the line with slope $\frac{1}{2}$ that passes through the point $(-4, -1)$.



11.

What is the solution to the system of equations?

$$\begin{cases} -8x + 5y = 11 \\ x = 6y + 4 \end{cases}$$

(_____, _____)

12.

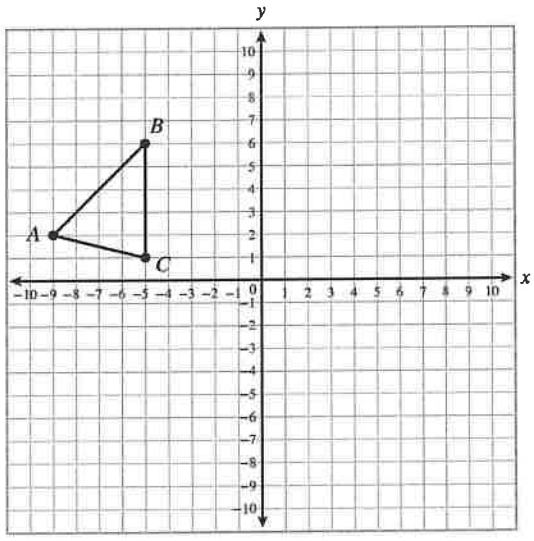
Fill in each blank to complete each statement.

If $x = -8$, then $5x - 4 =$ _____.

If $n = 9$, then $60 - 5n =$ _____.

13.

$\triangle ABC$ is graphed in the coordinate plane.



$\triangle A'B'C'$ is the image of $\triangle ABC$ under a reflection across the y-axis.

$\triangle A''B''C''$ is the image of $\triangle ABC$ under a translation 8 units down.

Fill in the blanks for the coordinates of the vertices of each triangle.

A'(_____, _____), B'(_____, _____), C'(_____, _____)

A''(_____, _____), B''(_____, _____), C''(_____, _____)

14.

Circle the factors of 54.

1	2	3	4	6	9
12	18	24	27	36	54

15.

Classify each number as a perfect square or not a perfect square.

Number	Perfect Square	Not a Perfect Square
24		
49		
60		
78		
144		

16.

Complete the statement. Write one solution from the given answer choices in the blank.

If $x^2 = 15$, the value of x must be _____.

Answer Choices

-7.5	$-\sqrt{15}$	7.5	$\sqrt{15}$	$-\sqrt{15}$ or $\sqrt{15}$	-7.5 or 7.5

17.

Write the values that make the statement true.

The expression $12x + 18$ is equivalent to $a(2x + b)$ when $a =$ _____ and $b =$ _____.

18.

Solve the equation $6(2x - 3) = 0$.

$x =$ _____

19.

Miss Tang and Mr. Scott purchase the same model of a laptop from different stores. Miss Tang pays d dollars for her laptop. Mr. Scott pays 15% more than Miss Tang pays for her laptop. Which expressions represent the amount in dollars Mr. Scott pays for his laptop? Choose **all** that apply.

A. $0.15d$

B. $1.15d$

C. $d + 15$

D. $d + 0.15d$

E. $(d + 0.15)d$

F. $(1 + 0.15)d$

G. $1 + (1 + 0.15)d$

20

Solve the equation $x^3 = 125$.

21.

Which expressions are equivalent to $4^3 \cdot 4^{-8}$? Choose all that apply.

A. 4^{-24}

B. 4^{-5}

C. 4^{11}

D. $\frac{4^3}{4^{-8}}$

E. $\frac{4^3}{4^8}$

F. $\frac{1}{4^5}$



These **activities are designed to help you build stamina and reinforce computation skills.** *If you need a refresher, review your previous Pre-Algebra work or use trustworthy online resources for support.*

Sprint 1 - SOLVING TWO-STEP EQUATIONS. Solve each equation.

10.	$3x - 6 = 18$	
11.	$3x - 6 = 15$	
12.	$3x + 9 = 21$	
13.	$3x + 9 = 18$	
14.	$3(x + 3) = 18$	
15.	$3(x + 3) = 21$	
16.	$3(x + 3) = 24$	
17.	$3(x - 3) = 24$	
18.	$3(x - 3) = 21$	

28.	$\frac{1}{4}(x + 8) = 4$	
29.	$4 = \frac{1}{4}x + 2$	
30.	$\frac{1}{4}x - 2 = -4$	
31.	$\frac{1}{4}x - 4 = 2$	
32.	$-\frac{1}{4}x + 4 = 2$	
33.	$-2 = -\frac{1}{4}(x - 16)$	
34.	$-\frac{1}{4}(x - 16) = 4$	
35.	$4 = -\frac{1}{4}x + 4$	
36.	$-\frac{1}{4}x + 4 = -4$	

SPRINT 2

Find the value of p in each equation.

1.	$2p = 2$	
2.	$2p = 4$	
3.	$2p = 6$	
4.	$2p = 10$	
5.	$2p = 20$	
6.	$3p = 12$	
7.	$3p = 18$	
8.	$3p = 21$	
9.	$3p = 27$	
10.	$4p = 28$	
11.	$4p = 32$	
12.	$5p = 20$	
13.	$5p = 30$	
14.	$5p = 45$	

19.	$\frac{1}{2}p = 4$	
20.	$\frac{p}{2} = 4$	
21.	$\frac{1}{2}p = 6$	
22.	$\frac{1}{3}p = 2$	
23.	$\frac{p}{3} = 2$	
24.	$\frac{p}{3} = 4$	
25.	$\frac{1}{3}p = 6$	
26.	$\frac{p}{3} = 6$	
27.	$\frac{1}{3}p = 8$	
28.	$\frac{p}{3} = 8$	
29.	$2p = \frac{1}{2}$	
30.	$2p = \frac{1}{4}$	
31.	$3p = \frac{1}{2}$	
32.	$3p = \frac{1}{5}$	

SPRINT 3 - extra Exponent Practice

1.	$10^3 \cdot 10^7$	
2.	$10^3 \cdot 10^6$	
3.	$10^3 \cdot 10^5$	
4.	$10^3 \cdot 10^4$	
5.	$10^3 \cdot 10^3$	
6.	$10^3 \cdot 10^2$	
7.	$10^3 \cdot 10^1$	
8.	$10^3 \cdot 10^0$	
9.	$10^3 \cdot 10^{-1}$	
10.	$10^3 \cdot 10^{-2}$	
11.	$10^3 \cdot 10^{-3}$	
12.	$(7^5)^8$	
13.	$(7^4)^6$	
14.	$(7^3)^4$	
15.	$(7^2)^2$	

37.	$\frac{10^6}{10^5}$	
38.	$\frac{10^5}{10^5}$	
39.	$\frac{x^{10}y^6}{x^5y^2}$	
40.	$\frac{x^8y^6}{x^4y^3}$	
41.	$\frac{x^6y^6}{x^3y^2}$	
42.	$\frac{x^4y^6}{x^4y^2}$	
43.	$\frac{x^2y^3}{xy^2}$	
44.	$\frac{x^2y^6}{xy}$	

mashupmath	
Zero Exponent Rule	$a^0 = 1$
Product Rule	$a^b \times a^c = a^{b+c}$
Quotient Rule	$a^b \div a^c = a^{b-c}$ or $\frac{a^b}{a^c} = a^{b-c}$
Power of a Power Rule	$(a^b)^c = a^{bc}$
Power of a Product Rule	$(ab)^c = a^c b^c$
Negative Exponent Rule	$a^{-b} = \frac{1}{a^b}$

Apply the properties and definitions of exponents to write an equivalent expression with positive exponents. Assume x and y are nonzero.

Skills #4

Indicate whether each expression is equivalent to 3^8, equivalent to 3^{-8}, or not equivalent to 3^8 or 3^{-8}.

Expression	Equivalent to 3^8	Equivalent to 3^{-8}	Not Equivalent to 3^8 or 3^{-8}
$(3^{-2})^4$			
$\left(\frac{1}{3}\right)^8$			
$(3^{-4})^{-4}$			
$\left(\frac{1}{3}\right)^{-8}$			
$(3^{-4})^{-2}$			

Skills #5

Find the GCF of each.

1) 39, 6

2) 24, 28

3) 40, 10

4) $39v$, $30uv$

5) $35n^2m$, $21m^2n$

6) $30y^3$, $20y^2$

7) 54, 45

8) 25, 55

9) 68, 34

10) 54, 27

11) 55, 75

12) $66yx$, $30x^2y$

Skills #6 - Clearing Fractions & Decimals

1.) $\frac{1}{5}a + 1 = \frac{3}{10}$

2.) $\frac{n}{3} - \frac{1}{6} = \frac{1}{2}$

3.) $\frac{5}{6}c + \frac{1}{2} = \frac{2}{3}$

4.) $\frac{k}{5} + \frac{3k}{10} = \frac{3}{2}$

5.) $\frac{2}{5}g + 2 = \frac{4}{7}$

6.) $\frac{h}{6} + \frac{2}{3} = \frac{5}{4}$

Skills #6 continued - clearing Fractions & Decimals

9.) $\frac{2}{5}y = 1 + \frac{3}{5}y$

10.) $\frac{x}{3} + \frac{2}{5} = \frac{2}{3} - x$

11.) $\frac{2}{5}(m-3) = 2 + \frac{3}{5}m$

12.) $\frac{3}{2}(k-3) = \frac{2}{3}(2k+1)$

13.) $0.03j = 0.6$

14.) $2.5 - 0.4y = 6.1$

15.) $0.013 - 0.02g = 0.053$

16.) $0.02 - 0.05f = -0.68 + 0.3f$