Sunset Middle School

Summer Math Packet

Dear Algebra Students and Families,

We are excited to welcome you to Algebra at Sunset Middle School for the 2026–2027 school year!

Attached you will find the Summer Math Packet. The skills included in this packet are important foundational concepts that will support your student's success in Algebra.

The packet is designed to be completed over the course of the summer. We encourage students to complete approximately one page per week to build fluency and maintain their math skills in a steady and manageable way.

Parents, we invite you to support your student by checking in on their progress and signing each section once it has been completed. If your student falls behind at any point, please don't be discouraged—simply pick up where they left off and keep going. Consistent effort over time makes a big difference.

All work should be completed without a calculator so that students can strengthen their number sense and problem-solving skills.

We look forward to beginning this new school year with you and can't wait to see the growth and confidence students build over the summer!

Mrs. DeHart

Math/Science Instructional Coach

Jennifer.dehart@wcs.edu

Complete Week 1

Parent Signature: _____

Summer Math Packet – Algebra

1. Rename 45% as a fraction in simplest form and as a decimal.	2. Rename $\frac{3}{16}$ as a decimal and a percent (to the nearest tenth if necessary).	3. Rename .65 as a fraction in simplest form and as a percent.	4. Rename 1.85 as a fraction in simplest form and as a percent.
5. Multiply: $1\frac{2}{7} \times 3\frac{3}{5}$	6. Evaluate: $3\frac{1}{4} - 5\frac{7}{8}$	7. Evaluate: $3\frac{1}{5} \div 5\frac{1}{6}$	8. Divide: $3.60 \div \frac{2}{3}$
9. What is 82% of 205?	10. What is 104% of 23?	11. Evaluate the expression: $8 - 8(8+8) + 8 \div 8 + 8$	12. Evaluate the expression: $1.45(150-80) - (-12)$
13. Simplify $\frac{14x^5}{56x^{-2}}$	14. Simplify $(5y^{-3}z^4)^{-2}$	15. Simplify $\left(\frac{32r^4s^{-7}}{56r^{-3}}\right)^{-2}$	16. Simplify $12 + (-18) - (-16) + 10$

Complete Week 2
Parent Signature: _____

Summer Math Packet – Algebra

1. What is the value of $7x - 4y$ when $x = 8$ and $y = -12$?	2. Evaluate $\frac{1}{3}\left(\frac{3}{4} - x\right)$ when $x = \frac{1}{2}$	3. 64 is 40% of what number?	4. What is 34% of 440?
5. Solve for x. $x^2 = 576$	6. Solve for x. $x^2 = \frac{144}{484}$	7. Simplify: $\sqrt[3]{-729}$	8. Simplify: $-\sqrt{0.0025}$
9. Write the repeating decimal as a fraction (SHOW WORK!) $3.\overline{6}$	10. Simplify the expression. $\frac{48r^5s^7}{14r^{12}s^{-3}}$	11. Simplify the expression. $12x^6y^{-4} \cdot 3x^{-8}y^4$	12. Simplify the expression. $1.9 \times 10^4 - 8.2 \times 10^2$
13. Write the repeating decimal as a fraction (SHOW WORK!) $-2.\overline{45}$	14. Simplify the expression. $\frac{4r^7s^{-7}}{18r^2s^{-6}}$	15. Simplify the expression. $-2x^{-6}y^8 \cdot 7x^8y^{-2}$	16. Simplify the expression. $(1.9 \times 10^4) \div (8.2 \times 10^2)$

Complete Week 3

Parent Signature: _____

Summer Math Packet – Algebra

1. Solve for x: $4x - 14 = 14$	2. Solve for f: $\frac{2}{3}f + 8 = 26$	3. Solve for x: $\frac{x}{4} - (-12) = 22 + 3x$	4. What percent of 64 is 28?
5. Approximate the square root. $\sqrt{152}$	6. Approximate the cube root. $\sqrt[3]{737}$	7. Solve the equation. $-3x - 8 = 7x - 12$	8. Solve the proportion: $\frac{8}{3} = \frac{36}{x}$
9. Simplify $(5.2 \times 10^{-7}) \div (8.1 \times 10^{-3})$	10. Simplify $\frac{9}{4} - \frac{43}{32}$	11. Simplify $\frac{9}{7} - \frac{12}{8}$	12. Simplify the expression: $-25k - (-4k) + 13 - 7k - 16$
13. Convert the decimal to a fraction. $7.\overline{342}$	14. Convert the decimal to a fraction. 3.88	15. Solve for h. $\frac{18}{h} + 12 = 21$	16. Solve for y. $8(-2 - 4y) = -6(3y + 16)$

Complete Week 4

Parent Signature: _____

Summer Math Packet – Algebra

1. Solve. $38 - 6n = -(-5 - 5n)$	2. Solve. $-21 - 8x = -7(7x + 3)$	3. Solve. $\frac{r}{9} = \frac{7}{4}$	4. Solve. $\frac{m}{6} = \frac{4}{5}$
5. Simplify. $2(2v + 1) + 8(1 - 5v)$	6. Simplify. $2(b + 9) + 9(1 - 8b)$	7. Simplify. $-10(3n - 3) + 3(6n + 9)$	8. Simplify. $-5(1 + 4x) - (9 + 9x)$
9. Simplify. $(6xy)^3$	10. Simplify. $4x^3 \cdot 7x$	11. Simplify. $(2x^3y^2)^3$	12. Simplify. $\frac{4k}{2k^2}$
13. Simplify in scientific notation.. $(6.1 \times 10^2)(3.7 \times 10^{-1})$	14. Simplify in scientific notation. $(1.3 \times 10^4)(5 \times 10^{-2})$	15. Simplify in scientific notation. $7.28 \times 10^3 + 3.2 \times 10^4$	16. Simplify in scientific notation. $1.9 \times 10^5 - 8.1 \times 10^4$

Complete Week 5

Parent Signature: _____

Summer Math Packet – Algebra

1. Simplify. $6a(-2a+7)$	2. Solve the equation. $-2k=-\frac{27}{7}$	3. State the slope and y-intercept. $y=-4$	4. Approximate using a mixed number. $\sqrt{18}$
5. Simplify. $-3x(-10x+7)$	6. Solve the equation. $\frac{149}{12}=n-\frac{7}{12}$	7. State the slope and y-intercept. $y=\frac{3}{4}x+1$	8. Approximate using a mixed number. $\sqrt{77}$
9. Simplify. $10(1+5x)+8x$	10. Solve the equation. $\frac{n}{4}=\frac{21}{34}$	11. State the slope and y-intercept. $x=2$	12. Approximate using a mixed number. $\sqrt[3]{81}$
13. Simplify. $6a^2+2a(-4a-4)$	14. Solve the equation. $\frac{9}{10}m=-\frac{54}{5}$	15 State the slope and y-intercept. $8-\frac{5}{4}x=y$	16. Approximate using a mixed number. $\sqrt[3]{128}$

Complete Week 6

Parent Signature: _____

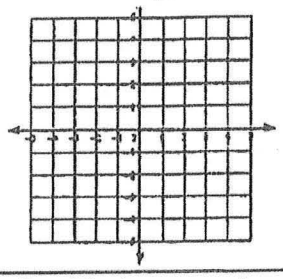
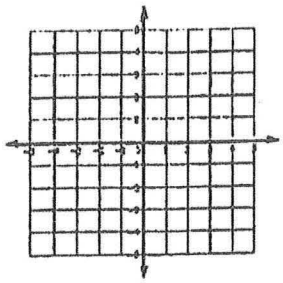
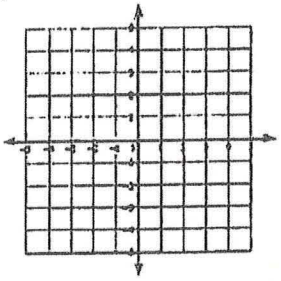
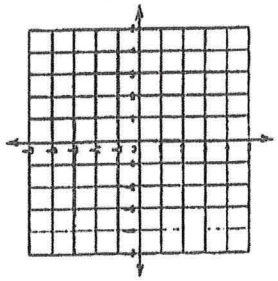
Summer Math Packet – Algebra

1. Simplify the following expression: $-4-3x(5+3x)-7$	2. Simplify the following expression: $\frac{4(2x+1)}{3}+\frac{1}{6}$	3. What is the value of y in this equation? $\frac{4}{7}y=\frac{22}{21}$	4. Solve for n: $33n+36=-41$
5. State the y-intercept and the slope. $y=\frac{3}{7}x-4$	6. State the y-intercept and the slope. $4x+2y=5$	7. State the y-intercept and the slope. $\frac{-1}{5}+2x=y$	8. State the y-intercept and the slope. $5x-10y=20$
9. Convert to standard form. $y=\frac{3}{5}x+\frac{11}{10}$	10. Convert to standard form. $\frac{4}{3}y=\frac{-5}{6}x+\frac{7}{12}$	11. Convert to standard form. $y=7x+\frac{1}{2}$	12. Convert to standard form. $-4x=y+5$
13. Look at the pattern below. $288, 72, 18, \frac{9}{2}, \ldots$ If the pattern continues, what will be the next term?	14. If the slope between two points is $\frac{-12}{5}$ and one of the ordered pairs is (-9 ,-5), and the x-coordinate of the other is 1, what is the y-coordinate of the other ordered pair?	15. Look at the pattern below. 13.2, 7.6, 2, -3.6, … If the pattern continues, what will be the 6th term?	16. Perform the needed operations to simplify: $4y(-2y^3-7y^2)-10y^3$

Complete Week 7

Parent Signature: _____

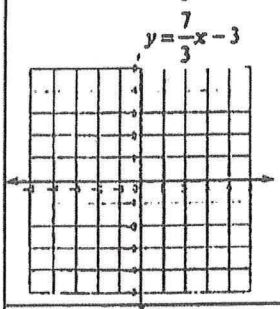
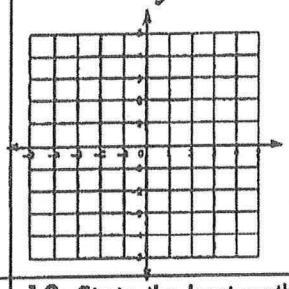
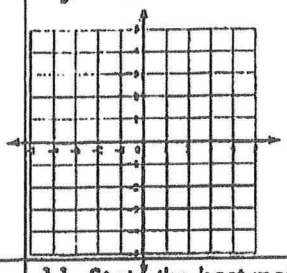
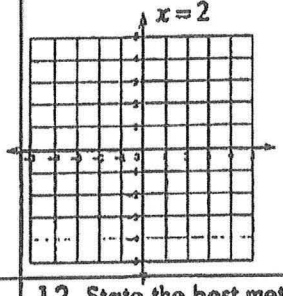
Summer Math Packet – Algebra

1. State the slope and y-intercept. $-7x+5y=20$	2. State the slope and y-intercept. $2x-y=-7$	3. State the slope and y-intercept. $-3x+5y=1$	4. State the slope and y-intercept. $y=5x+8$
5. Graph the equation below. $y=\frac{7}{3}x-3$ 	6. Graph the equation below. $y=-4$ 	7. Graph the equation below. $y=-x-1$ 	8. Graph the equation below. $x=2$ 
9. Simplify the expression. $\frac{2(3x+4)}{4}+\frac{x}{2}$	10. Simplify the expression. $7-7(-3x^4+2x)+3x\cdot 2x^5$	11. Solve the equation. $\frac{6}{11}r=24$	12. Solve the equation. $2(4x-1)+8=3(2+2x)+2x$
13. Convert to standard form. $y=\frac{3}{5}x+1$	14. Convert standard form. $3x+\frac{1}{3}y=\frac{5}{4}$	15. Convert to standard form. $\frac{4}{7}+\frac{3}{4}y=-\frac{11}{14}x$	16. Convert to standard form. $y=x$

Complete Week 4

Parent Signature: _____

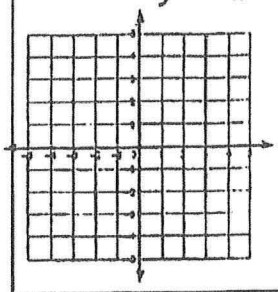
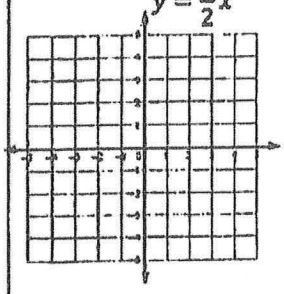
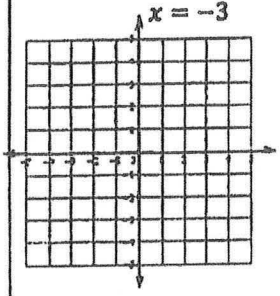
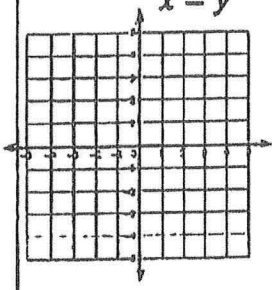
Summer Math Packet – Algebra

1. Solve the system algebraically. $-7x+5y=20$ $y=4$	2. Solve the system algebraically. $y=2x-5$ $2x-y=-7$	3. Solve the system algebraically. $-3x+5y=1$ $y=3x-7$	4. Solve the system algebraically. $y=5x+8$ $y=-2x+1$
5. Solve the system by graphing. $y=\frac{1}{3}x+3$ $y=\frac{7}{3}x-3$ 	6. Solve the system by graphing. $y=-4$ $y=-3x-1$ 	7. Solve the system by graphing. $y=-x-3$ $y=-x-1$ 	8. Solve the system by graphing. $y=-\frac{1}{2}x-2$ $x=2$ 
9. State the best method for solving the system and explain why it's best. $7x+6y=-23$ $y=-5$	10. State the best method for solving the system and explain why it's best. $3x+y=-3$ $-6x+6y=-18$	11. State the best method for solving the system and explain why it's best. $-6x+7y=24$ $y=2x$	12. State the best method for solving the system and explain why it's best. $y=-4x-8$ $y=0$
13. Convert to point slope and standard form. $y=-\frac{8}{3}x-5$	14. Convert to point slope and standard form. $y=\frac{4}{5}x-1$	15. Convert to point slope and standard form. $x=-3$	16. Convert to point slope and standard form. $y=-x$

Complete Week 9

Parent Signature: _____

Summer Math Packet – Algebra

1. Solve the system algebraically. $3x + y = 13$ $y = -2$	2. Solve the system algebraically. $y = \frac{3}{5}x + 2$ $x - 5y = -8$	3. Solve the system algebraically. $2x - 7y = 6$ $2x - 4y = 12$	4. Solve the system algebraically. $y = 2x + 1$ $y = x + 7$
5. Solve the system by graphing. $y = \frac{4}{3}x + 2$ $y = -x - 5$ 	6. Solve the system by graphing. $y = 2x - 1$ $y = \frac{3}{2}x$ 	7. Solve the system by graphing. $y = \frac{5}{3}x + 4$ $x = -3$ 	8. Solve the system by graphing. $y = 2$ $x = y$ 
9. Solve for y if x = 3 $y = 2x - 1$	10. Solve for y if x = -1 $y = 7x + 12$	11. Solve for y if x = -5 $y = \frac{-4x}{5} - 8$	12. Solve for y if x = -2 $y = -2x^2 - x + 1$
13. Convert to standard form. $y = 2x - 1$	14. Convert to standard form. $y = \frac{7x}{8} + 12$	15. Convert standard form. $y = \frac{-4x}{5} - \frac{8}{15}$	16. Convert to standard form. $y = \frac{4}{3}x$