Sandy Creek High School
Algebra 1 Summer Review Packet
For Rising 9th Graders

Welcome Future Patriot!!!
We hope you have a great summer and look forward to seeing you in August!

About Algebra 1:
Algebra 1 teaches students to think, reason, and communicate mathematically. Students use variables to determine solutions to real world problems. Skills gained in Algebra 1 provide students with a foundation for subsequent math courses. Students will analyze data and model functions to represent real world applications. Each student is expected to have a calculator in class everyday. Students are expected to use use calculators in class, on homework, during (some) quizzes and tests, and final exams. Students do not use handheld calculators on GA EOC Milestones but, more info will be given during the school year. It is recommended that students use the TI-36XPro but, not required.

Expectations for the Algebra 1 Summer Review Packet:
The items in this packet are designed to help you review topics that are important to your success in Algebra 1. Please try every problem, show all thinking/work, and box your answers. We encourage you to show your thinking in a way that is most comfortable for you but, ofcourse it must be on paper. **All work should be completed in pencil.**

While this review packet is not required, it is recommended to prepare you for mastery of the Algebra 1 standards. This packet may be turned in within the first 2 weeks of school, for extra credit points at the Algebra 1 teacher's discretion. Additionally, students **may** earn homework passes for successfully completing this review. This too is at the discretion of the Algebra 1 teacher.

If you need a refresher on any topics, we recommend visiting www.khanacdemy.org. We look forward to seeing you in August. Be sure to bring a **new composition notebook**.

Sincerely,
The SCHS Algebra 1 Team

Additional Resources:
www.hippocampus.org
www.mathisfun.com
www.mathispower4u.com/algebra.php
www.virtualnerd.com

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Name: _____

Practice with Integers

Simplify. ***Do not use a calculator for this section.***

1. $9 + -4 =$
2. $-8 + 7 =$
3. $-14 - 6 =$
4. $-30 + -9 =$
5. $14 - 20 =$
6. $-2 + 11 =$
7. $20 - -6 =$
8. $7 - 10 =$
9. $-6 - -7 =$
10. $5 - 9 =$
11. $-8 - 7 =$
12. $1 - -12 =$

Simplify. ***Do not use a calculator for this section.***

1. $(-5)(-3) =$
2. $\frac{-6}{2} =$
3. $(2)(4) =$
4. $\frac{-12}{-4} =$
7. $\frac{-7}{-1} =$
8. $(3)(-4) =$
9. $\frac{8}{-4} =$
10. $(-2)(7) =$

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Order of Operations

Evaluate each expression. Remember your order of operations process (PEMDAS).

1. $6 + 4 - 2 \cdot 3 =$

2. $(-2) \cdot 3 + 5 - 7 =$

3. $15 \div 3 \cdot 5 - 4 =$

4. $29 - 3 \cdot 9 + 4 =$

5. $20 - 7 \cdot 4 =$

6. $4 \cdot 9 - 9 + 7 =$

7. $50 - (17 + 8) =$

8. $(12 - 4) \div 8 =$

Distributive Property

Simply each expression.

1) $-6(a + 8)$

2) $4(1 + 9x)$

3) $6(-5n + 7)$

4) $(9m + 10) \cdot 2$

5) $(-4 - 3n) \cdot -8$

6) $8(-b - 4)$

7) $(1 - 7n) \cdot 5$

8) $-6(x + 4)$

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Evaluating Expressions

Evaluate each expression given that: x = 5 y = -4 z = 6

1. $3x$
2. $2x^2$
3. $3x^2 + y$
4. $2(x + z) - y$
5. $y + 4$
6. $5z - 6$
7. $xy + z$
8. $2x + 3y - z$

Combining **Like Terms**

Simplify each expression by combining like terms.

1. $6n + 5n$
2. $25b + 15b$
3. $37z + 4z$
4. $x - 5x$
6. $3n + 1 - 2n + 8$
6. $4f + 5f - 6 + 8$
7. $7t + 9 - 4t + 3$
8. $2k + 4 - 8k - 1$
9. $4r + 3r + 6y - 2y$
10. $8g + 9h - 4g - 5h$

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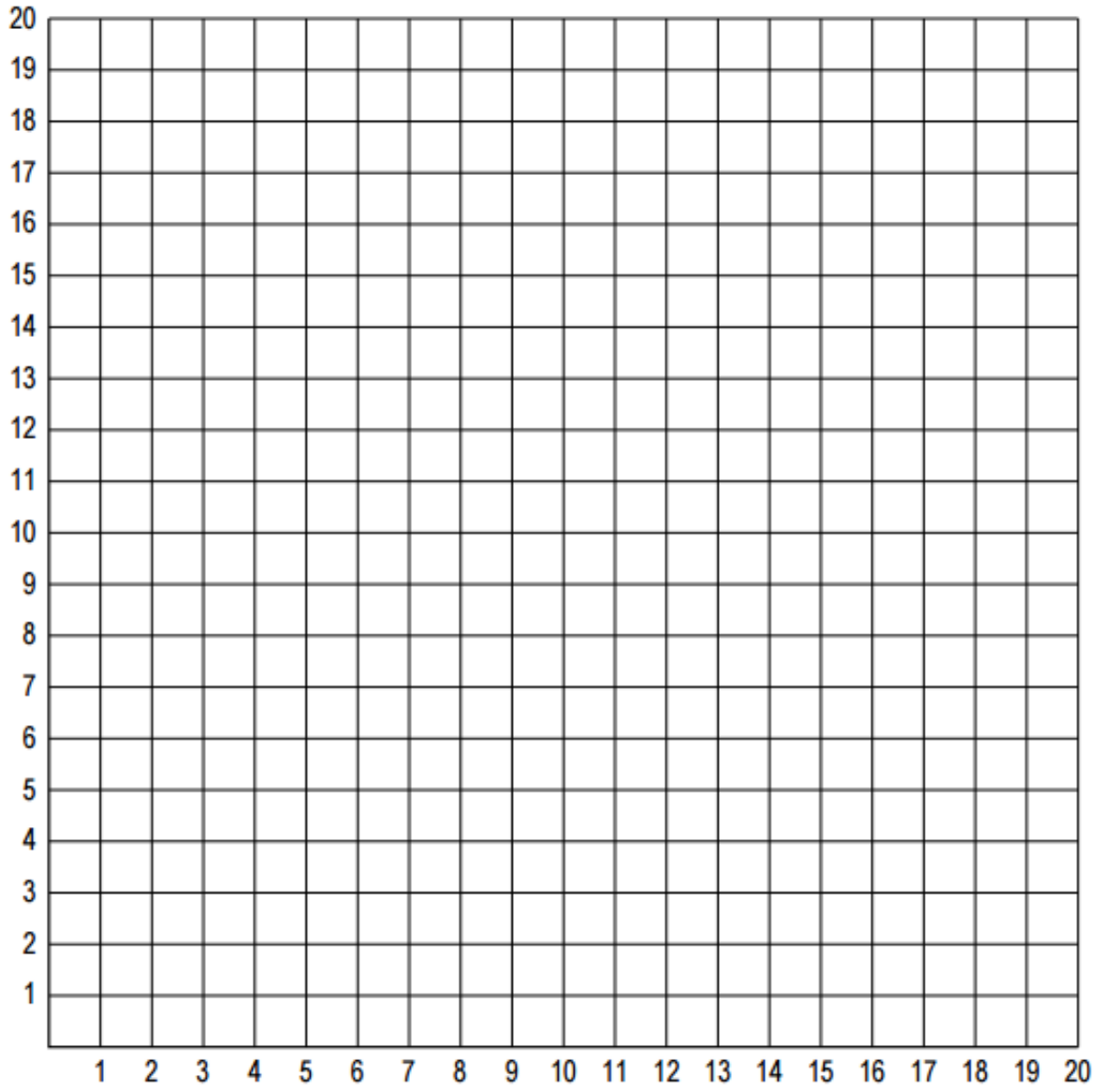
Graphing

Connect the series of points below to reveal each shape.

Shape 1: (11,11), (14,11), (14,14), (16,14), (16,11), (19,11), (19,19), (16,19), (16,16), (14,16), (14,19), (11,19), (11,11) **Shape 2:** (9,11), (9,16), (7,14), (2,19), (1,18), (6,13), (4,11), (9,11) **Shape 3:** (12,8), (12,2), (14,2), (14,4), (16,4), (16,2), (18,2), (18,8), (16,8), (16,6), (14,6), (14,8), (12,8) **Shape 4:** (8,9), (5,6), (2,9), (1,8), (4,5), (1,2), (2,1), (5,4), (8,1), (9,2), (6,5), (9,8), (8,9)



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Sequences

Find the next three terms in each sequence.

1) 6, 9, 12, 15, 18, 21 …

2) 80, 75, 70, 65, 60, 55…

3) 3, 8, 13, 18, 23, …

4) 3, 5, 7, 9, 11, 13 ….

5) 18, 22, 26, 30, 34, 38 …

6) 100, 93, 86, 79, 72, 65 …

Solving Equations

Solve each equation.

1) $26 = 8 + v$

2) $3 + p = 8$

3) $15 + b = 23$

4) $-15 + n = -9$

5) $m + 4 = -12$

6) $x - 7 = 13$

7) $\frac{v+9}{3} = 8$

8) $2(n+5) = -2$

9) $-9x + 1 = -80$

10) $-6 = \frac{n}{2} - 10$

11) $-2 = 2 + \frac{v}{4}$

12) $144 = -12(x+5)$