

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

Algebra 1 2017

## Summer Math Packet for students entering ALGEBRA 1

Over the summer to better prepare you for the challenges of Algebra next year, we have put together some worksheets for you to complete over the summer. The packet will be due the first day back to school in the fall.

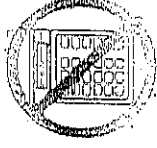
The worksheets will cover the following topics:

Review Sheet 1 – Adding & Subtracting Fractions  
Review Sheet 2 – Multiplying & Dividing Fractions  
Review Sheet 3 – Operations with Integers  
Review Sheet 4 – Order of Operations  
Review Sheet 5 – Evaluating Expressions  
Review Sheet 6 – Plotting Points  
Review Sheet 7 – Statistics

Completing this packet:

- ✓ Assignments will be passed in on the **FIRST** day of school and will count towards your homework grade for Quarter 1.
- ✓ You will be **TESTED** on this information during the first week of school.
- ✓ All of this information will relate to Algebra 1. It is imperative that you know each concept to be successful during the class.
- ✓ For each individual problem you should:
  - Read Directions
  - Show ALL work
  - Leave answers as **REDUCED FRACTIONS**. No decimal answers should be given!
  - **NO WORK=NO CREDIT!**

Good Luck! We hope you have a wonderful summer! See you in the fall!!



## Review Sheet 1: Adding/Subtracting Fractions

No Calculators Permitted. ALL work must be shown!

1. Convert to a mixed # $\frac{11}{3}$	2. Convert to a mixed # $\frac{25}{13}$	3. Convert to an improper fraction $2\frac{3}{5}$	4. Convert to an improper fraction $4\frac{5}{11}$	5. Convert to an improper fraction $1\frac{1}{3}$
Answer: _____	Answer: _____	Answer: _____	Answer: _____	Answer: _____

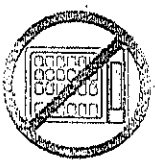
**Add the following fractions. Make sure you have a common denominator!**

6. $\frac{2}{9} + \frac{5}{9}$	7. $\frac{3}{4} + 1\frac{1}{4}$	8. $\frac{1}{15} + \frac{16}{15}$	9. $5 + \frac{5}{3}$	10. $\frac{3}{2} + \frac{9}{2}$
Answer: _____	Answer: _____	Answer: _____	Answer: _____	Answer: _____
11. $\frac{2}{5} + \frac{1}{10}$	12. $\frac{3}{7} + \frac{1}{10}$	13. $\frac{2}{5} + \frac{1}{7}$	14. $1\frac{1}{2} + 2\frac{2}{3}$	15. $\frac{2}{3} + \frac{1}{11}$
Answer: _____	Answer: _____	Answer: _____	Answer: _____	Answer: _____

**Subtract the following fractions. Make sure you have a common denominator!**

16. $\frac{1}{3} - \frac{2}{3}$	17. $\frac{5}{7} - \frac{2}{7}$	18. $\frac{3}{7} + 2\frac{1}{7}$	19. $5 - \frac{4}{9}$	20. $\frac{11}{2} - \frac{3}{2}$
Answer: _____	Answer: _____	Answer: _____	Answer: _____	Answer: _____
21. $\frac{3}{4} - \frac{1}{2}$	22. $\frac{5}{9} - \frac{1}{18}$	23. $\frac{1}{7} - \frac{2}{3}$	24. $1\frac{2}{3} - \frac{1}{6}$	25. $\frac{3}{10} - \frac{1}{9}$
Answer: _____	Answer: _____	Answer: _____	Answer: _____	Answer: _____

**Review Sheet 2: Multiplying/Dividing Fractions**  
**No Calculators Permitted. ALL work must be shown!!**



Reduce the following fractions.

1. $\frac{2}{6}$	2. $\frac{5}{125}$	3. $\frac{3}{81}$	4. $\frac{2}{32}$	5. $\frac{6}{34}$
Answer: _____	Answer: _____	Answer: _____	Answer: _____	Answer: _____

Multiply the following fractions. Make sure to reduce all answers.

6. $\frac{1}{3} \cdot \frac{2}{5}$	7. $\frac{1}{11} \cdot \frac{2}{9}$	8. $1\frac{1}{2} \cdot 2\frac{2}{3}$	9. $\frac{5}{2} \cdot \frac{1}{12}$	10. $3\frac{1}{2} \cdot 2\frac{3}{7}$
Answer: _____	Answer: _____	Answer: _____	Answer: _____	Answer: _____
11. $\frac{4}{3} \cdot \frac{1}{3}$	12. $\frac{11}{12} \cdot \frac{1}{2}$	13. $\frac{5}{6} \cdot \frac{1}{5}$	14. $2\frac{1}{7} \cdot 1\frac{2}{9}$	15. $\frac{5}{3} \cdot \frac{3}{16}$
Answer: _____	Answer: _____	Answer: _____	Answer: _____	Answer: _____

Divide the following fractions. Make sure to reduce all answers.

16. $\frac{1}{9} \div \frac{2}{5}$	17. $\frac{3}{7} \div \frac{1}{2}$	18. $\frac{1}{7} \div \frac{9}{11}$	19. $\frac{6}{7} \div -\frac{2}{3}$	20. $\frac{4}{9} \div \frac{2}{3}$
Answer: _____	Answer: _____	Answer: _____	Answer: _____	Answer: _____
21. $\frac{1}{5} \div \frac{1}{5}$	22. $\frac{11}{13} \div \frac{2}{5}$	23. $\frac{7}{9} \div \frac{4}{5}$	24. $3 \div \frac{4}{5}$	25. $\frac{2}{3} \div \frac{1}{2}$
Answer: _____	Answer: _____	Answer: _____	Answer: _____	Answer: _____

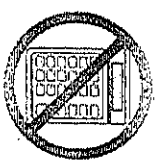


### Review Sheet 3: Operations with Integers

No Calculators Permitted. ALL work must be shown!!

Use mental math to simplify the following.

1. $9 - 22$ Answer: _____	2. $(-23) + (-10)$ Answer: _____	3. $5 + (-7)$ Answer: _____	4. $9 + 13$ Answer: _____	5. $(-2) + 17$ Answer: _____
6. $(-5) - (-3)$ Answer: _____	7. $(-2) - (-15)$ Answer: _____	8. $-12 + 5$ Answer: _____	9. $2 + (-25) - 7$ Answer: _____	10. $(-5) - (-11)$ Answer: _____
11. $-2 \times -7$ Answer: _____	12. $(3)(-12)$ Answer: _____	13. $(-13)(15)$ Answer: _____	14. $(2)(5)(-3)$ Answer: _____	15. $4 \times -2 \times -11$ Answer: _____
16. $0 \cdot 5 \cdot -3$ Answer: _____	17. $4(-7)(5)$ Answer: _____	18. $15 \div 3$ Answer: _____	19. $\frac{144}{12}$ Answer: _____	20. $84 \div 2$ Answer: _____
21. $3 \div 6$ Answer: _____	22. $\frac{28}{4}$ Answer: _____	23. $12 \div 36$ Answer: _____	24. $\frac{81}{9}$ Answer: _____	25. $165 \div 15$ Answer: _____



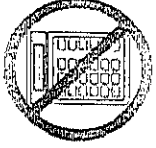
### Review Sheet 4: Order of Operations

No Calculators Permitted. ALL work must be shown!!

\*\* For fraction answers, make sure they are reduced!

Use order of operations (PEMDAS) to simplify the following!

1. $2 + 6 \times 8 \div 4$ Answer: _____	2. $10 \div 5 \times 2 + 6$ Answer: _____	3. $4 + (20 \times 3)$ Answer: _____	4. $30 - 22 + (5 + 5)$ Answer: _____	5. $(8 - 5)2 \times 2 + 5$ Answer: _____
6. $102 \div 10 + 8 \times 4$ Answer: _____	7. $-2(5 - 8) + 18 \div 3$ Answer: _____	8. $5 - 8 \div 8 \times 2$ Answer: _____	9. $10 - 8 + 6(2 + 4)^2$ Answer: _____	10. $-2 \left[ 5 + \left( 3 \cdot \frac{1}{6} \right) \right]^2$ Answer: _____
11. $\left( \frac{16}{2} \right) - 4(5)$ Answer: _____	12. $4^4(5) + 3(11)$ Answer: _____	13. $(4(5))^3$ Answer: _____	14. $2^5 - 4^2 \div 2^2$ Answer: _____	15. $(1 + 3)^2$ Answer: _____
16. $\left( \frac{27 - 12}{8 - 3} \right)^3$ Answer: _____	17. $\left( \frac{3(6)}{17 - 5} \right)^4$ Answer: _____	18. $(6^2 + 4) - 15$ Answer: _____	19. $4 \times 6^2 \div 3 + 7$ Answer: _____	20. $4(11 - 2 \div 3)$ Answer: _____



Review Sheet 5: Evaluating Expressions  
No Calculators Permitted. ALL work must be shown!!  
\*\*For fractions answers, make sure they are reduced!

Evaluate the following when  $x = 2, y = -1, z = 3$

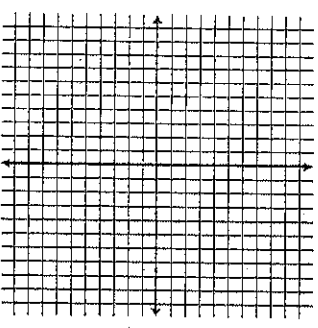
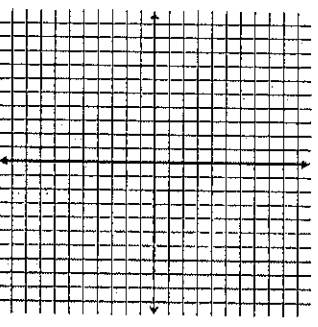
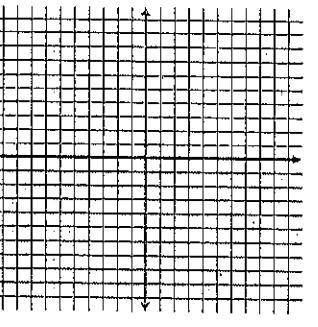
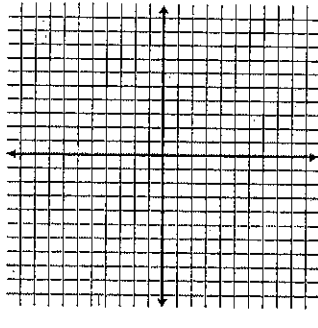
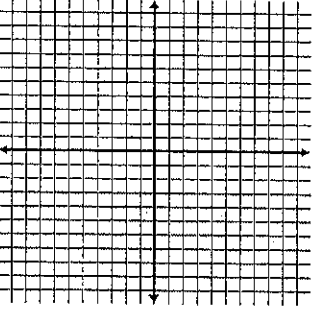
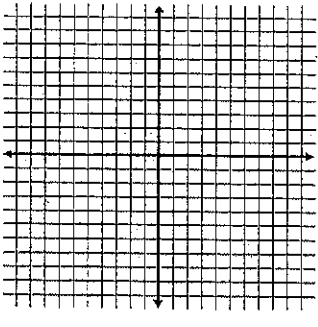
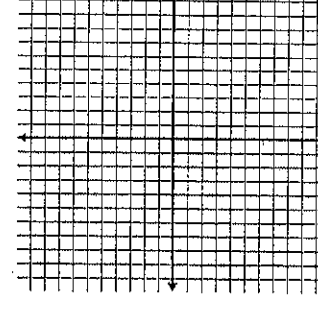
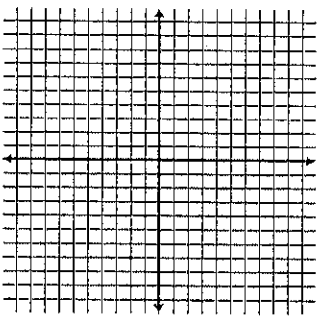
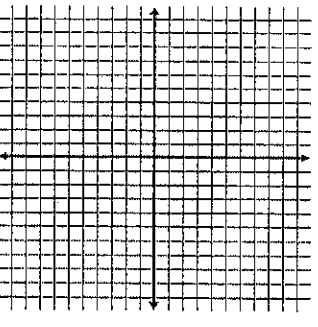
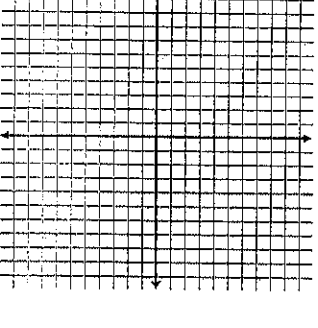
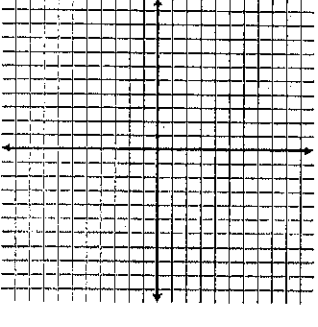
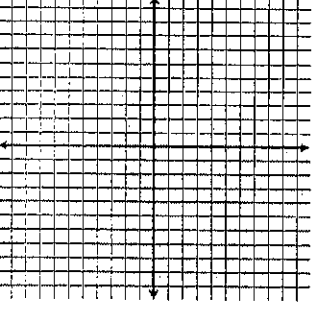
1. $12 - (z - y)^2$ Answer: _____	2. $\frac{y}{z + 3y}$ Answer: _____	3. $5x - 2y$ Answer: _____	4. $\frac{xy}{z}$ Answer: _____	5. $xyz$ Answer: _____
6. $2x + 3y - z$ Answer: _____	7. $(3x)(2y)(5z)$ Answer: _____	8. $x^3 - 7$ Answer: _____	9. $y^2 - z^4$ Answer: _____	10. $(x - y^2) + 3z$ Answer: _____

Evaluate the following when  $a = \frac{1}{3}, b = \frac{2}{5}, c = -\frac{1}{2}$

11. $a + b$ Answer: _____	12. $b - c$ Answer: _____	13. $abc$ Answer: _____	14. $a + b + c$ Answer: _____	15. $a \div c$ Answer: _____
16. $\frac{ab}{c}$ Answer: _____	17. $b^2$ Answer: _____	18. $c - a$ Answer: _____	19. $a(b + c)$ Answer: _____	20. $\frac{c - b}{a}$ Answer: _____

# Review Sheet 6: Plotting Points

Plot each ordered pair on the given graph.

1. $(1, 2)$ 	2. $(3, -5)$ 	3. $(5, 1)$ 
4. $(-1, -1)$ 	5. $(0, 6)$ 	6. $(-1, 3)$ 
7. $(7, 0)$ 	8. $(2, -3)$ 	9. $(-5, -7)$ 
10. $(5, -1)$ 	11. $(-2, 0)$ 	12. $(0, 0)$ 

Review Sheet 7: Statistics & Graphs  
 Calculators may be used on this section.  
 \*Answers may be rounded to the nearest tenth.

Find the mean, median and mode of the following sets of data.

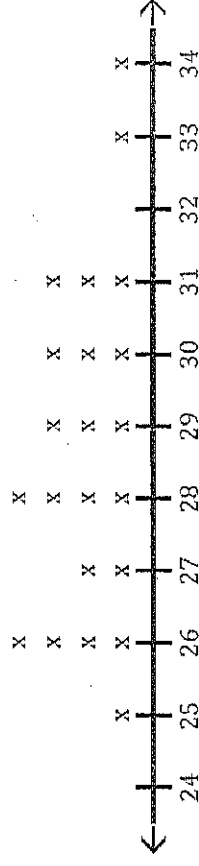
1. {2,3,6,6,9,11}	2. {16,3,12,9,5,12}	3. {31,32,33,34,35}	4. {100,92,34,57,81}	5. {4,6,6}
Mean: _____ Median: _____ Mode: _____	Mean: _____ Median: _____ Mode: _____	Mean: _____ Median: _____ Mode: _____	Mean: _____ Median: _____ Mode: _____	Mean: _____ Median: _____ Mode: _____

6. Over six months, a family's electric bills averaged \$55 per month. The bills for the first five months were \$57.60, \$60, \$53.25, \$50.75, and \$54.05. What was the electric bill in the sixth month?

7. Use the data set 14, 18, 12, 17, 14, 19, 18 and find the minimum, first quartile, median, third quartile, and maximum of each data set, then draw a box-and-whisker plot.

Use the line plot to answer the questions below.

8. How many numbers are greater than 28?



9. Find the mean, median, mode, and range of the data from the line plot below

10. Find the mean, median, mode, and range of the data in the stem and leaf plot

stem	leaf
13	6
14	1 1 4 6
15	3 8
16	5 8
17	2 3 6
18	0 6 7