

Name _____

Summer Algebra I

This packet should help prepare you for Algebra I. Please complete these problems by the first week of school.

Simplify the following expressions. **Calculator may only be used on #4.**

1. $\frac{5-1}{2-3}$

2. $5+10(25-8)$

3. $\frac{2}{3}(5-2)^2+3$

4. $2.5 \bullet 0.5^2 - 1.63(.02 - 4.7)^3$

5. $\frac{3}{8} \bullet \frac{5}{9} \div \left(-\frac{5}{6}\right) + \frac{7}{4}$

6. Evaluate the expression $\frac{2}{5}x$ when $x = \frac{3}{5}$.

Simplify the following expressions.

7. $-2x+5-6x-11$

8. $5(3x+2)$

9. $2(a-8)+7(a-1)$

10. $5b-7(b+4)$

11. Evaluate the expression $(2a-3b)^3$ when $a=3, b=1$.

12. Evaluate the expression $-\left|-\frac{2}{9}-\frac{2}{3}\right|+\frac{4}{5}$

Solve the following equations. **Calculator may only be used for #17.**

13. $x-5=9$

14. $v-(-4)=-6$

15. $10-r=15$

16. $-16=28+p$

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17. $-52(23.4 - u) = 289.4$ Round to the nearest hundredth.

18. $17 = 3(6 - b)$

19. $-\frac{3}{4}m = 24$

20. $4a - 11 = 9 + 3a$

21. $9(x - 3) = 10 + 9x$

Complete each sequence. Explain your reasoning.

22. 2, 6, 10, 14, ____, ____, ____

23. 240, 120, 60, 30, ____, ____, ____

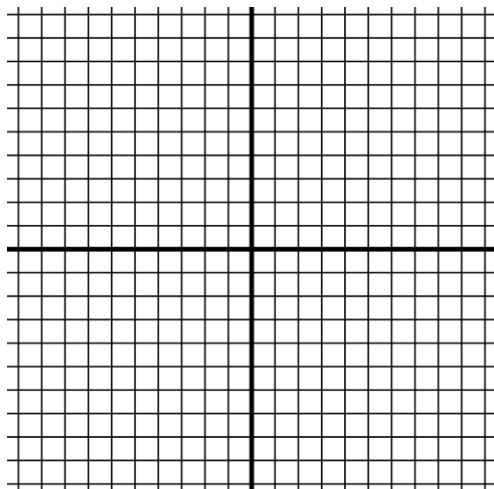
24. -2, 6, -18, 54, ____, ____, ____

25. 0, 1, 4, 9, ____, ____, ____

26. 37, 26, 15, 4, ____, ____, ____

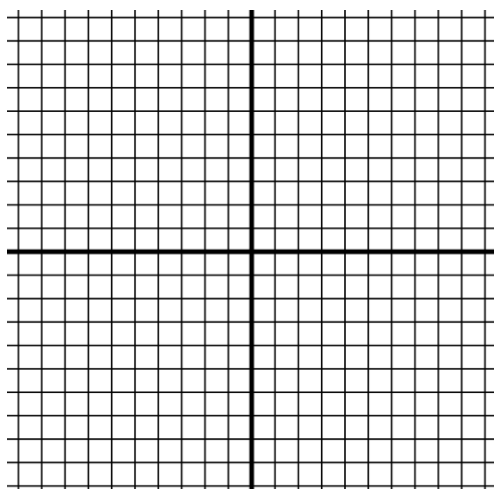
27. Given the equation $y = 3x + 4$, fill in the table below. Graph the points on the coordinate plane.

x	y
-1	
0	
1	
2	



28. Given the equation $y = \frac{3}{4}x - 1$, fill in the table below. Graph the points on the coordinate plane.

x	y
-4	
0	
4	
8	



(A calculator can be used for questions 29, 30 & 31.)

29. What is 63% of 147? Round to the nearest tenth.

30. 43 is what percent of 37? Round to the nearest tenth.

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31. The average SAT score for math in 1986 was 490. Since then, the average score has increased by 8.2%. What is the average score now? Round to the nearest whole number.

Rewrite as an equation:

32. Twice a number increased by seven is three less than three times the same number.

33. A recycling center pays \$.05 per aluminum can. You are paid \$4.00 for recycling cans.

a. Write an equation that represents this situation : _____

b. Solve the equation.

34. A group of 220 students were asked to name the sport they most like to attend. The results are shown in the table below.

Sport	Basketball	Soccer	Football	Baseball	Volleyball	Wrestling	Hockey
Number	40	20	50	55	10	10	35

- What is the probability that a randomly chosen student said either basketball or soccer?
- What is the probability that a randomly chosen student did not say baseball?
- What are the odds that a randomly chosen student said football?

(A calculator can be used for question 35.)

35. Below is a table of gas prices in Trumbull.

January	February	March	April	May	June	July	August
\$4.30	\$4.25	\$3.95	\$4.05	\$4.00	\$3.80	\$5.10	\$3.95

- Find the mean price.
- Find the median price.
- Find the mode.
- Find the range.