

Algebra 2 Summer Math Packet

In preparation for your Algebra 2 class this fall, you will need to complete this packet by the first day of school, Tuesday, August 26, 2008. Your Algebra 2 teacher will be collecting it on the first day of school. If you lose the packet during the summer, you must pick up a new one in the main office. You will also find a copy posted on Lincoln's website, <http://www.sjUSD.org/school/lincoln>. You will be tested on this material by the end of the first week of school. All of the topics in the math packet are math skills that you have learned in your previous math classes.

On a piece of paper, *COPY* the problems and show *ALL* the steps when working out the solutions. If you don't remember how to do a problem, please use your notebooks from Algebra 1 and Geometry, or your local library, or Internet resources. You will *NOT* be given credit for this packet if no work is shown.

Although calculators will *NOT* be permitted on tests and quizzes, you may find a calculator to be useful in completing your homework assignments. The TI 83+ or TI 84 is recommended for its ease of use.

Start the year off with an "A". Do your packet!
The Lincoln High School Math Department

Algebra 2 Summer Assignment

Copy onto separate sheet of paper!

NO CALCULATORS!

Topic 1

Evaluate

- $(16)(-4)(2)$
- $15 - (-15)$
- $(9-5)/2$
- $\frac{15 \cdot 6}{6^2 \div 2}$
- $\frac{7}{5} + \frac{5}{6}$
- $3\frac{3}{4} + \frac{9}{16}$
- $\frac{5}{8} \div \frac{6}{7}$
- $\sqrt{0}$
- $\pm\sqrt{49}$
- $\sqrt{-16}$
- $\sqrt{25}$

Topic 2

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

- $2(x - y)^2$
- $\frac{3y^2}{z}$

Simplify (combine like terms)

- $5(2x-4)+3(-3x+7)$
- $(-2x^2 + x - 3) + (3x^2 + 4x + 5)$
- $(x^3 + 5x^2 - 4x) - (3x^2 - 6x + 2)$

Simplify

- $x^3 \cdot x^4$
- $2^2 \cdot 2^5$
- $(y^2)^4$
- $\frac{5^4}{5^2}$
- $\frac{x^8}{x^3}$
- $\left(\frac{y^5}{y^3}\right)^2$
- $\frac{(x^3)^5}{(x^3)^7}$

Topic 3

Solve the Equation

- $\frac{x}{3} = 15$
- $3x - 11 = -14$
- $5 + \frac{x}{9} = 10$
- $7 - 2(x+3) = -3x + 8$
- $5(2x+3) = -3(-3x+4)$

Solve the Inequality

6. $h+7 < -2$

7. $x-12 \geq 4$

8. $-2x-8 \leq 0$

9. $\frac{y}{2} \geq -9$

10. $6-2x < -24$

11. $-3(2x-3) > -8x+1$

Solve the Proportion (hint: cross multiply)

12. $\frac{2}{x} = \frac{5}{15}$

13. $\frac{-4}{2x} = \frac{3}{21}$

Topic 4

Plot and label the ordered pair in a coordinate plane.

1. $A(4,6)$

2. $B(0,-5)$

3. $C(-2,-4)$

Find the slope and y-intercept of the equation (hint: $y=mx+b$; m:slope; b:y-int.)

4. $y = 3x+8$

5. $y = -2x-5$

Graph the equation (on graph paper!)

6. $y = x-2$

7. $y = 1/4x-3$

8. $y = -2x-4$

Topic 5

Factor the trinomial

1. $x^2 + 5x - 14$

2. $x^2 + 6x + 9$

3. $x^2 + 27x + 50$

4. $x^2 + 5x - 36$

5. $x^2 - 10x + 16$

6. $x^2 - 10x + 9$

7. $x^2 + 6x - 27$

8. $x^2 - 3x - 10$

9. $x^2 - 8x - 33$

10. $x^2 + 20x + 100$