AC CCGPS Geometry Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

U1 Test Review Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Perform the operation and simplify. Answers should be in standard form.

1. (3x2 – 2x – 9) + (-8x2 + 3x – 7)

2. (-2x2 + 6x – 11) – (7x2 – 3x + 8)

3. 4x3(8 – 2x + 3x2)

4. (x + 3)(x + 11)

5. (x – 4)(x + 7)

6. (x + 3)2

7. Multiply (6x – 3) by (6x + 3)

8. What product does the figure model?

9. Write a simplified polynomial expression that represents the volume of the prism shown.

 (*x* – 3)

 (*x* + 5)

 (3*x* + 2)

10. Write an expression that represents the perimeter of the isosceles triangle below.

 4*x*2

 (*x* + 3)

11. Multiply completely: (a + 3)3

12. Two sides of a rectangle are (x + 3) and (x – 4) respectively. Write expressions for its perimeter *and* its area.

**Rationals and Radicals**

13. What’s the value of 125(2/3)?

14. Simplify: 

15. Simplify: 

16. Simplify: 

17. Simplify: 

**Imaginary and complex numbers**

18.What’s the value of *i*28? *i*41? *i*15?

19. Multiply: (3 + 2*i*)(4 + 7*i*) 20. *2i*(3 – 6*i*) 21. Find (5 + 2*i*)2

22. Find the sum of (2 – 6*i*) and its conjugate.

23. What’s the difference of (5 – 3*i*) and its conjugate?

24. Find the product of (2 + 2*i*) and its conjugate.

25. Simplify: $\frac{2-3i}{4+5i}$ (can’t leave the *i* on the bottom)

**And a couple of crazy problems!**

26. If x2 + y2 = 10 and xy = 8, then what’s the value of (x + y)2 ?

27. If (x – y) = 7 and (x + y) = 10, then what’s the value of x2 - y2 ?