SHOW ALL WORK…NO WORK = NO CREDIT!!

REVIEW D

All problems are to be solved WITHOUT a Calculator!

1. **Solve:** $|2x - 7| \geq -13$ **1.**_____

2. **Solve the system for x + y** $4x + 5y = 11$, $-3x + 2y = 32$ **2.**_____

3. **Factor completely** $64x^3 - 1$ **3.**_____

4. **Simplify** $\frac{15}{2-i}$ **4.**_____

5. **Simplify** $(3x - 5x^2 - 2x^3)(6x^2 - 5x + 1)^{-1}$ **5.**_____

6. **Solve for x over the field of complex numbers:** $5x^2 - 2x + 1 = 0$ **6.**_____

7. **Solve for x:** $12 = 2 + 3^x$ **(leave answer in log form)** **7.**_____

8. **Simplify:** $\left(9^{\frac{1}{2}} + 16^{\frac{1}{2}}\right)^2$ **8.**_____

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9. What is the magnitude of $4 - 7i$ $(hint: |4 - 7i|)$

9._____

10. Find the nth term of the sequence -6,-1,4,9,….. **10._____**

11. Given $f(x) = 4x - 5$ determine $f^{-1}(x)$ **11._____**

12. For a wedding, Shereda bought several dozen roses and several dozen carnations. The roses cost $15 per dozen and the carnations cost $8 per dozen. Shereda bought a total of 17 dozen flowers and paid a total of $192. How many roses did she buy? Write two equations, label your variables and solve.

12._____

13. Which quadrant is NOT included in the graph of the solution to the system:

$$5x + 6y < 15$$
$$3x - 3y \geq 6$$

13._____

14. What are the x-intercepts of the graph $y = 12x^2 - 5x - 2$? **14._____**

15. What is $log_7 8$ in terms of $\log_{10}$? **15._____**

16. Use the binomial expansion theorem to expand and simplify:

a) $(2x - y)^4$

b) $(x^3 + y^2)^5$