

## DL Module 2 Review

Concepts to know: Students should be able to

- 1) Graph absolute values (Determine the h and k, and the a and b values)
- 2) Solve Absolute Value equations (know when 1 solution, 2 solutions, or no solution)
- 3) Simplify radicals (Add, subtract, and multiply)
- 4) Work with i and powers of i .
- 5) Perform operations with Complex Numbers.

## Practice Problems

Graph:

1. $y = -\frac{1}{2} (x-5) +3$	2. $y = \left -\frac{1}{2}(x-5)\right +3$
3. What is the h, k, a, and b values for #1?	4. What is the h, k, a, and b values for #2?

Solve:

5. $-\frac{1}{2} (x-3) +1=-17$	6. $-\frac{1}{2}\left \frac{3}{2}x-4\right +1=1$
7. $-\frac{1}{2}\left \frac{4}{5}(x-3)\right +1=5$	8. $3+2 3x-5 =5$

Simplify each:

9. $-2\sqrt{27}+3\sqrt{75} =$	10. $5\sqrt{18}-3\sqrt{48}+2\sqrt{50} =$
11. $-2\sqrt{22}\cdot 3\sqrt{55} =$	12. $(2\sqrt{3}-\sqrt{2})(4\sqrt{6}+\sqrt{10}) =$

Simplify each:

13. $i^{231}$	14. $i^{-231}$
15. $\frac{i^{23}}{i^{30}}$	16. $2i^3(5i^{27})$
17. $\sqrt{-3}\cdot\sqrt{-21}$	18. $2i\sqrt{-2}\cdot i\sqrt{-12}$

Perform the operation and simplify:

19. $(1-2i)(3i-7)$	20. $3(1-2i)+5(3i-7)$
21. $3(1+4i)-4(i-4)$	22. $\frac{(1-2i)}{(3i-7)}$

Simplify:

23. $f(x) = 4x^4 - 2x^3 + 6x^2 + 3x;$  $find\ f(i)$	24. $f(x) = 6x^2 - x;$  $find\ f(i^2) - f(i^3)$
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