Algebra II Homework #18

1) Simplify: $\sqrt[3]{686x^5y^9a^2}$

2) Write $\sqrt[8]{x^5} \cdot \sqrt[3]{x^7}$ as a single radical.

3) Simplify: $(\sqrt{72} - \sqrt{128})(\sqrt{54} + \sqrt{96})$

4) Simplify: $\dfrac{7^{\frac{3}{4}} x^{\frac{1}{2}} y^{\frac{5}{8}} a^{\frac{2}{3}}}{(7^{\frac{3}{2}} x^{\frac{3}{4}} y^{\frac{1}{6}} a^{\frac{1}{2}})^{\frac{4}{3}}}$

5) Simplify: $3x\sqrt{147x} + 5\sqrt{363x^3} + 4x\sqrt{18x^2} - x^2\sqrt{50}$

6) Solve: $\sqrt{x+13} - \sqrt{x+6} = 7$

7) Simplify: $\sqrt{-98} \cdot \sqrt{-24}$

8) Solve: $\sqrt{3x+4} + 8 = 1$

9) Simplify: i^{115}

10) Solve: $\sqrt{2x+1} + 1 = \sqrt{x+12}$

11) Simplify: $(5i - 6)(4i + 3)$

12) Solve: $\sqrt{x+4} - 1 = \sqrt{x-1}$

13) Simplify: $\dfrac{7i - 4}{7i}$

14) Simplify: $\dfrac{i^{64} i^{71}}{i^{21}}$

15) Simplify: $6(4i - 1) - 3(5i + 4)$

16) Simplify: $\dfrac{6i + 13}{5i}$

17) Simplify: $\sqrt{-507} \cdot \sqrt{-726}$

18) Solve: $\sqrt{2x+1} - \sqrt{x+4} = 1$

19) Simplify: $\dfrac{3i+5}{3i-4}$

20) Simplify: $(6i-1)(8i-9)$