Algebra II Homework #17

1) Find the distance between the points (5, -2) and (-3, -5).

2) Simplify: $\dfrac{-2c^0 - a^3}{-y - x^2}$ if a = -2, c = -7, x = -3, and y = -5

3) Find the equation of the line having a slope of $\dfrac{-5}{12}$ and goes through the point (-8,-3).

4) Solve: $\dfrac{2}{x^2 - 7x + 12} = \dfrac{3}{x - 4} - \dfrac{2}{x - 3}$

5) If seven less than the product of a number and four is eight more than the quotient of the number and three, find the number.

6) Simplify: $\sqrt[3]{1512x^7 y^2 a^{10}}$

7) Simplify: $5x\sqrt{72x^3} - 3\sqrt{98x^5} + 4x^2\sqrt{343x^4 a^3} - xa\sqrt{1183x^6 a}$

8) Simplify: $(3xa^2\sqrt{48x^3 a^2} - x^3 a\sqrt{242x^4 a^5})(2x^2 a^2\sqrt{50x^2 a^3} + 4xa\sqrt{27xa^4})$

9) Simplify: $\dfrac{\sqrt{54}}{\sqrt{72}}$

10) Write $\sqrt[4]{x^5} \cdot \sqrt[3]{x^2}$ as a single radical.

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

12) Simplify: $\sqrt[4]{567x^3 y^{14} a^9}$

13) Simplify: $6\sqrt{847y^5 a} + \sqrt{1859y^3 a^3} - 3y^2\sqrt{252ya} + 4ya\sqrt{539ya}$

14) Simplify: $(\sqrt{54x^4 a} - \sqrt{48x^3 a^5})(\sqrt{120xa^3} - \sqrt{162x^2 a^6})$

15) Simplify: $\dfrac{5 - \sqrt{18}}{5 + \sqrt{8}}$

16) Write $\sqrt[5]{x^7} \cdot \sqrt[4]{x^9}$ as a single radical.

17) Simplify: $\dfrac{(2^{\frac{4}{5}} x^{\frac{2}{3}} y^{\frac{1}{4}} a^{\frac{5}{3}})^{\frac{3}{4}}}{2^{\frac{3}{10}} (x^{\frac{5}{6}} y^{\frac{3}{2}} a^{\frac{1}{6}})^{\frac{9}{5}}}$

18) Simplify: $\dfrac{\sqrt[3]{36}}{\sqrt[3]{32}}$

19) Write $\sqrt[6]{x^4} \cdot \sqrt[9]{x^5}$ as a single radical.

20) Simplify: $\dfrac{(5^{\frac{3}{8}} x^{\frac{-1}{6}} y^{\frac{3}{4}} a^{\frac{-1}{2}})^{\frac{8}{3}}}{(5^{\frac{-5}{12}} x^{\frac{5}{6}} y^{\frac{-3}{4}} a^{\frac{1}{3}})^{\frac{-12}{5}}}$