

Algebra II Notes- Unit 3

Day 32: Simplifying Radicals

Monday: 2-20-12
Worksheet

Simplify.

1. $\sqrt[3]{a^3b^6}$

2. $\sqrt{-81}$

3. $\sqrt{72x^3}$

4. $\sqrt[3]{80n^5}$

5. $\sqrt{50x^4}$

6. $\sqrt[3]{18x^4}$

7. $\sqrt{20x^3}$

8. $\sqrt[3]{54y^{10}}$

9. $\sqrt{200a^6b^7}$

10. $\sqrt[3]{-250x^6y^5}$

11. $\sqrt[4]{64x^3y^6}$

12. $\frac{\sqrt{48x^3}}{\sqrt{3xy^2}}$

13. $\frac{\sqrt{56x^5y^5}}{\sqrt{7xy}}$

14. $\frac{\sqrt[3]{250x^7y^3}}{\sqrt[3]{2x^2y}}$

15. $\frac{\sqrt{5}}{\sqrt{8x}}$

16. $\frac{\sqrt{5x^4y}}{\sqrt{2x^2y^3}}$

Day 33: Add, Subtract, & Multiply Radicals

Tuesday: 2-21-12

pg. 372 #37-45 & pg. 377 #28-38

Simplify.

1. $\sqrt{2} \cdot \sqrt{8}$

2. $\sqrt[3]{3} \cdot \sqrt{-9}$

3. $\sqrt[3]{54x^2y^3} \cdot \sqrt[3]{5x^3y^4}$

4. $4\sqrt{2x} \cdot 5\sqrt{6xy^2}$

5. $-\sqrt[3]{2x^2y^2} \cdot 2\sqrt[3]{15x^5y}$

6. $5\sqrt[3]{x} - 3\sqrt[3]{x}$

7. $6\sqrt{18} + 4\sqrt{8} - 3\sqrt{72}$

8. $\sqrt{50} + 3\sqrt{32} - 5\sqrt{18}$

9. $(3 + 2\sqrt{5})(2 + 4\sqrt{5})$

10. $(\sqrt{2} - \sqrt{3})^2$

9. $\sqrt[4]{32} + \sqrt[4]{48}$

10. $14\sqrt{20} - 3\sqrt{125}$

Day 34: Rational Exponents

Wednesday: 2-22-12

pg. 383 #38-48 even & #66-76 even

Write each expression in simplest form. Assume that all variables are positive.

1. $125^{1/3}$

2. $5^{1/2} \cdot 5^{1/2}$

3. $10^{1/3} \cdot 100^{1/3}$

4. $25^{-3/2}$

5. $32^{3/5}$

6. $(-32)^{4/5}$

7. $(x^{-4/7})^7$

8. $5(x^{2/3})^{-1}$

9. $(-32y^{15})^{1/5}$

10. $y^{5/7} \div y^{3/14}$

11. $\frac{x^{2/3}y^{-1/4}}{x^{1/2}y^{-1/2}}$

12. $[(x^{-1/2})^2]^{1/3}$

Day 35: Complex Numbers (Simplify, Add, Subtract, Multiply) Thursday: 2-23-12
pg. 274 #1-18 all, #29-40 even

$$i = \underline{\hspace{2cm}} \qquad i^2 = \underline{\hspace{2cm}}$$

Standard form for complex numbers: $a + bi$, where a = real part & b = imaginary part.

Simplify each number by using the imaginary number i .

1. $\sqrt{-2}$

2. $\sqrt{-12}$

3. $\sqrt{-36}$

4. $\sqrt{-9} + 6$

5. $\sqrt{-18} + 7$

6. $(5 + 7i) + (-2 + 6i)$

7. $(8 + 3i) - (2 + 4i)$

8. $7 - (3 + 2i)$

9. $(5i)(-4i)$

10. $(6 - 5i)(4 - 3i)$

11. $(4 - 9i)(4 + 3i)$

12. $(2 + 5i)^2$

Day 36:

Friday: 2-24-12

Quiz #1- Unit 3

Day 37:

1. Radical Division
2. Rationalizing denominators
3. Conjugates
4. Real & imaginary denominators

Monday: 2-27-12

pg. 275 #57-65 odds

pg. 372 #46-54 even & pg. 377 #40, 42

Simplify each expression.

1. $(2 + \sqrt{-1}) + (-3 + \sqrt{-16})$

2. $(3 + \sqrt{-4})(4 + \sqrt{-1})$

3. $\frac{5\sqrt{2}}{3\sqrt{7x}}$

4. $\frac{10}{\sqrt[3]{5x^2}}$

5. $\frac{3\sqrt{11x^3y}}{-2\sqrt{12x^4y}}$

6. $\frac{4 + \sqrt{27}}{2 - 3\sqrt{27}}$

7. $\frac{5 - \sqrt{21}}{\sqrt{3} - \sqrt{7}}$

Day 38: 1. Solve radical equations
2. Zero product property

Tuesday: 2-28-12

pg. 389 #21-30

Solve. Check for extraneous solutions.

1. $3\sqrt{x} + 3 = 15$

2. $\sqrt{3x + 4} = 4$

3. $\sqrt{6 - 3x} - 2 = 0$

4. $(x + 5)^{2/3} = 4$

5. $3(x + 3)^{3/4} = 81$

6. $\sqrt{3x + 13} - 5 = x$

7. $(5x + 4)^{1/2} - 3x = 0$

8. $(5 - x)^{1/2} = x + 1$

9. $\sqrt{x + 10} + \sqrt{3 - x} = 0$

Day 39: Solve radical equations (Day 2)

Wednesday: 2-29-12
pg. 389 #34-50 evens

Where can you find a salad in a clothing store?

Kuta Worksheet

Day 40: Problem set DUE & Quiz

Thursday: 3-1-12

Day 41: Unit 3 Review

Friday: 3-2-12

Day 42: Unit 3 TEST

Monday: 3-5-12

END OF THE 9 WEEKS ☺