

Algebra 2A
Unit 4 Introduction

Name _____

Assignment

1. $c^{12} \cdot c^{-4} \cdot c^6$

2. $\frac{b^8}{b^2}$

3. $\left(\frac{x^2y}{xy^3}\right)^2$

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

5. $\left(\frac{a^2b}{a^{-3}b^2}\right)^{-1}$

6. $4j(2j^{-2}k^2)(3j^3k^{-7})$

7. $(2c^2d^0)^3(5c^{-7}d^2)$

8. $\frac{12a^2b^4c^5}{48a^6b^3c^{-3}}$

9. $(x^2)^0$

10. $(2x^2)^4$

11. $(x^2y^{-4})(x^3y^2)$

Assignment

Use a calculator to approximate each value to three decimal places.

1. $\sqrt{7.8}$

2. $-\sqrt{89}$

3. $\sqrt[3]{25}$

4. $\sqrt[3]{-4}$

Simplify. Leave EXACT value only.

5. $-\sqrt{324}$

6. $-\sqrt[4]{256}$

7. $\sqrt[6]{64}$

8. $\sqrt{\frac{16x^2}{25}}$

9. $\sqrt{(2x)^8}$

10. $-\sqrt[4]{625x^8}$

$$11. \sqrt[3]{216x^3y^9}$$

$$12. \sqrt[3]{-27x^9y^{12}}$$

$$13. -\sqrt{49x^{10}y^{16}}$$

$$14. \sqrt[4]{(x-5)^8}$$

$$15. \sqrt{x^2 + 10x + 25}$$

Algebra 2A
4.2

Name _____
Assignment

Simplify.

1. $\sqrt{540}$

2. $\sqrt[3]{-432}$

3. $-\sqrt[4]{405}$

4. $\sqrt[3]{125x^6y^2}$

5. $\sqrt[4]{48x^8y^{13}}$

6. $\sqrt{\frac{11}{9}}$

7. $(3\sqrt{15})(-4\sqrt{45})$

8. $\sqrt{810} + \sqrt{240} - \sqrt{250}$

$$9. 8\sqrt{48} - 6\sqrt{75} + 7\sqrt{80}$$

$$10. (3\sqrt{2} + 2\sqrt{3})$$

$$11. (\sqrt{5} - \sqrt{6})(\sqrt{5} + \sqrt{2})$$

$$12. (1 + \sqrt{6})(5 - \sqrt{7})$$

$$13. \frac{6}{\sqrt{2} - 1}$$

$$14. \frac{5 + \sqrt{3}}{4 + \sqrt{3}}$$

$$15. \frac{3 + \sqrt{x}}{2 - \sqrt{x}}$$

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4.3

Name _____
Assignment

Write each expression in radical form.

1. $5^{\frac{1}{3}}$

2. $6^{\frac{2}{5}}$

3. $m^{\frac{4}{7}}$

4. $(n^3)^{\frac{2}{5}}$

Write each radical using rational exponents.

5. $\sqrt{79}$

6. $\sqrt[4]{153}$

7. $\sqrt[3]{27m^6n^4}$

8. $5\sqrt{2x^{10}y}$

Evaluate each expression.

9. $81^{\frac{1}{4}}$

10. $1024^{\frac{1}{5}}$

11. $8^{\frac{5}{3}}$

12. $27^{\frac{1}{3}} \cdot 27^{\frac{4}{3}}$

13. $\left(\frac{125}{216}\right)^{\frac{2}{3}}$

14. $\left(25^{\frac{1}{2}}\right)\left(-64^{\frac{1}{3}}\right)$

Simplify each expression.

15. $g^{\frac{4}{7}} \cdot g^{\frac{3}{7}}$

16. $\left(x^{-\frac{1}{3}}\right)^{\frac{4}{5}}$

17. $x^{-\frac{3}{5}}$

18. $\frac{x^{\frac{3}{5}}}{x^{\frac{2}{5}}}$

19. $\sqrt[10]{8^5}$

20. $\sqrt{12} \cdot \sqrt[5]{12^3}$

Algebra 2A
4.4

Name _____
Assignment

Solve each equation.

1. $\sqrt{x} = 8$

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

3. $4\sqrt{3x} - 2 = 0$

4. $\sqrt[3]{x+2} = 7$

5. $\sqrt{1-4x} - 8 = -6$

6. $(6x-5)^{\frac{1}{5}} + 2 = -3$

7. $\sqrt{2x-5} = \sqrt{x-1}$

8. $\sqrt{2x+5} = \sqrt{2x+1}$

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4.5

Name _____
Assignment

Simplify.

1. $6\sqrt{-12}$

2. $\sqrt{-36x^3y^4}$

3. $\sqrt{-15} \cdot \sqrt{-25}$

4. $(7i)^2(6i)$

5. i^{42}

6. i^{55}

7. $(5-2i)+(-13-8i)$

8. $(-12+48i)+(15+21i)$

9. $(28-4i)-(10-30i)$

10. $(8-11i)(8-11i)$

11. $(7 + 2i)(9 - 6i)$

12. $\frac{2}{7 - 8i}$

Solve each equation.

13. $2x^2 + 10 = 0$

14. $-2x^2 - 6 = 0$

15. $\frac{3}{4}x^2 + 12 = 0$