

Unit 4 Introduction**Answer Key**

1. c^{14}

2. b^6

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

4. $\frac{y^2}{x^6}$

5. $\frac{b}{a^5}$

6. $\frac{24j^2}{k^5}$

7. $\frac{40d^2}{c}$

8. $\frac{bc^8}{4a^4}$

9. 1

10. $\frac{1}{16x^8}$

11. $\frac{x^5}{y^2}$

4.1**Answer Key**

1. 2.793

2. -9.434

3. 2.924

4. -1.587

5. -18

6. -4

7. 2

8. $\frac{4|x|}{5}$

9. $16x^4$

10. $-5x^2$

11. $6xy^3$

12. $-3x^3y^4$

13. $-7|x^5|y^8$

14. $(x-5)^2$

15. $|x+5|$

4.2**Answer Key**

1. $6\sqrt{15}$

2. $-6\sqrt[3]{2}$

3. $-3\sqrt[4]{5}$

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

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

6. $\frac{\sqrt{11}}{3}$

7. $-180\sqrt{3}$

8. $4\sqrt{15}+4\sqrt{10}$

9. $2\sqrt{3}+28\sqrt{5}$

10. $30+12\sqrt{6}$

11. $5+\sqrt{10}-\sqrt{30}-2\sqrt{3}$

12. $5-\sqrt{7}+5\sqrt{6}-\sqrt{42}$

13. $6\sqrt{2}+6$

14. $\frac{17-\sqrt{3}}{13}$

15. $\frac{6+5\sqrt{x}+x}{4-x}$

4.3**Answer Key**

1. $\sqrt[3]{5}$

2. $\sqrt[5]{6^2}$

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

4. $n\sqrt[5]{n}$

5. $79^{\frac{1}{2}}$

6. $153^{\frac{1}{4}}$

7. $3m^2n^{\frac{4}{3}}$

8. $5\cdot 2^{\frac{1}{2}}|x^5|y^{\frac{1}{2}}$

9. 3

10. $\frac{1}{4}$

11. $\frac{1}{32}$

12. 243

13. $\frac{25}{36}$

14. $-\frac{5}{4}$

15. g

16. $x^{\frac{4}{15}}$

17. $\frac{x^{\frac{2}{5}}}{x}$ or $\frac{\sqrt[5]{x^2}}{x}$

18. $x^{\frac{1}{5}}$ or $\sqrt[5]{x}$

19. $2\sqrt{2}$

20. $12\sqrt[10]{12}$

4.4**Answer Key**

1. $\{64\}$

2. $\{1\}$

3. $\{\frac{1}{12}\}$

4. $\{341\}$

5. $\{-\frac{3}{4}\}$

6. $\{-20\}$

7. $\{4\}$

8. No Solution

4.5**Answer Key**

1. $12i\sqrt{3}$

2. $6i|x|y^2\sqrt{x}$

3. $-5\sqrt{15}$

4. $-294i$

5. -1

6. $-i$

7. $-8-10i$

8. $3+69i$

9. $18+26i$

10. $-57-176i$

11. $75-24i$

12. $\frac{14+16i}{113}$

13. $\{\pm i\sqrt{5}\}$

14. $\{\pm i\sqrt{3}\}$

15. $\{\pm 4i\}$