**Algebra 2: Unit 6: Rational Functions**

**Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Estimate the given square or cube root functions. Round your answer to two decimal places.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **1. √67** | **2. √134** | **3. √55** | **4. √79** | **5. √910** |
| **6. √1674** | **7. √-25** | **8. √31** | **9. √24** | **10. √512** |
| **11. √45** | **12. √200** | **13. √147** | **14. √125** | **15. ³√610** |
| **16. ³√54** | **17. ³√78** | **18. ³√-421** | **19. ³√336** | **20. ³√463** |
| **21. ³√102** | **22. ³√495** | **23. ³√183** | **24. ³√247** | **25. ³√308** |

**Determine the exact value for the given square or cube root functions.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **1. √150** | **2. √588** | **3. √1024** | **4. √28** | **5. √208** |
| **6. √960** | **7. √108** | **8. √549** | **9. √245** | **10. √175** |
| **11. √891** | **12. √5202** | **13. √1800** | **14. √384** | **15. ³√108** |
| **16. ³√576** | **17. ³√2000** | **18. ³√875** | **19. ³√1024** | **20. ³√5324** |
| **21. ³√324** | **22. ³√1715** | **23. ³√24** | **24. ³√3328** | **25. ³√50625** |

**Algebra 2: Unit 6: Rational Functions**

**Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Estimate the given square or cube root functions. Round your answer to two decimal places.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **1. √67** | **2. √134** | **3. √55** | **4. √79** | **5. √910** |
| **6. √1674** | **7. √-25** | **8. √31** | **9. √24** | **10. √512** |
| **11. √45** | **12. √200** | **13. √147** | **14. √125** | **15. ³√610** |
| **16. ³√54** | **17. ³√78** | **18. ³√-421** | **19. ³√336** | **20. ³√463** |
| **21. ³√102** | **22. ³√495** | **23. ³√183** | **24. ³√247** | **25. ³√308** |

**Determine the exact value for the given square or cube root functions.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **1. √150** | **2. √588** | **3. √1024** | **4. √28** | **5. √208** |
| **6. √960** | **7. √108** | **8. √549** | **9. √245** | **10. √175** |
| **11. √891** | **12. √5202** | **13. √1800** | **14. √384** | **15. ³√108** |
| **16. ³√576** | **17. ³√2000** | **18. ³√875** | **19. ³√1024** | **20. ³√5324** |
| **21. ³√324** | **22. ³√1715** | **23. ³√24** | **24. ³√3328** | **25. ³√50625** |

**Simplify as far as possible, using the exact values of the given square or cube root function.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **1. √150m5** | **2. √122x12** | **3. √244t2** | **4. √2u9** | **5. √213x7** |
| **6. √432w** | **7. √108s3** | **8. √49e8** | **9. √56p2** | **10. √125j5** |
| **11. √243q7** | **12. √50m4** | **13. √8k3s2** | **14. √384t5g2** | **15. ³√108s4** |
| **16. ³√8k3** | **17. ³√375x5s6** | **18. ³√125pqr2** | **19. ³√56s2t** | **20. ³√704b4** |
| **21. ³√24n4m6** | **22. ³√54g2** | **23. ³√24** | **24. ³√40z7n2** | **25. ³√189p5** |

**Simplify as far as possible, using the exact values of the given square or cube root function.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **1. √150m5** | **2. √122x12** | **3. √244t2** | **4. √2u9** | **5. √213x7** |
| **6. √432w** | **7. √108s3** | **8. √49e8** | **9. √56p2** | **10. √125j5** |
| **11. √243q7** | **12. √50m4** | **13. √8k3s2** | **14. √384t5g2** | **15. ³√108s4** |
| **16. ³√8k3** | **17. ³√375x5s6** | **18. ³√125pqr2** | **19. ³√56s2t** | **20. ³√704b4** |
| **21. ³√24n4m6** | **22. ³√54g2** | **23. ³√24** | **24. ³√40z7n2** | **25. ³√189p5** |

**Algebra 2 Unit 6: Rational and Root Functions**

**Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Simplify as far as possible, using the exact values of the given square or cube root function.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **1. √2\*√5** | **2. -√6\*4√20** | **3. -4√3\*√18** | **4. 4√30\*√6** | **5. √2\*√12** |
| **6. √2\*-4√6** | **7. 2√12\*2√3** | **8. 4√2\*5√3** | **9. 2√12\*4√15** | **10. -3√15\*5√6** |
| **11.** $\frac{6\sqrt{6}}{\sqrt{4}}$ | **12.** $\frac{5\sqrt{10}}{6\sqrt{2}}$ | **13.** $\frac{4\sqrt{6}}{\sqrt{2}}$ | **14.** $\frac{3\sqrt{30}}{6\sqrt{216}}$ | **15.** $\frac{3\sqrt{36}}{6\sqrt{4}}$ |
| **16.** $\frac{6\sqrt{36}}{4\sqrt{4}}$ | **17.** $\frac{3\sqrt{6}}{\sqrt{5}}$ | **18.** $\frac{5\sqrt{5}}{4\sqrt{2}}$ | **19. -** $\frac{4}{3\sqrt{5}}$ | **20.** $\frac{2\sqrt{5}}{\sqrt{2}}$ |
| **21.** $\frac{4\sqrt{3}}{3\sqrt{2}}$ | **22.** $\frac{6\sqrt{6}}{2\sqrt{5}}$ | **23.**  | **24.**  | **25.**  |

**Algebra 2 Unit 6: Rational and Root Functions**

**Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Simplify as far as possible, using the exact values of the given square or cube root function.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **1. √2\*√5** | **2. -√6\*4√20** | **3. -4√3\*√18** | **4. 4√30\*√6** | **5. √2\*√12** |
| **6. √2\*-4√6** | **7. 2√12\*2√3** | **8. 4√2\*5√3** | **9. 2√12\*4√15** | **10. -3√15\*5√6** |
| **11.** $\frac{6\sqrt{6}}{\sqrt{4}}$ | **12.** $\frac{5\sqrt{10}}{6\sqrt{2}}$ | **13.** $\frac{4\sqrt{6}}{\sqrt{2}}$ | **14.** $\frac{3\sqrt{30}}{6\sqrt{216}}$ | **15.** $\frac{3\sqrt{36}}{6\sqrt{4}}$ |
| **16.** $\frac{6\sqrt{36}}{4\sqrt{4}}$ | **17.** $\frac{3\sqrt{6}}{\sqrt{5}}$ | **18.** $\frac{5\sqrt{5}}{4\sqrt{2}}$ | **19. -** $\frac{4}{3\sqrt{5}}$ | **20.** $\frac{2\sqrt{5}}{\sqrt{2}}$ |
| **21.** $\frac{4\sqrt{3}}{3\sqrt{2}}$ | **22.** $\frac{6\sqrt{6}}{2\sqrt{5}}$ | **23.**  | **24.**  | **25.**  |