

Simplify (Simplifying Perfect Squares):

1. $\sqrt{4}$

2. $\sqrt{16}$

3. $-\sqrt{100}$

4. $\sqrt{a^8}$

5. $\sqrt{w^{12}}$

6. $\sqrt{a^6b^{10}}$

7. $\sqrt{9a^2}$

8. $-\sqrt{81m^{64}}$

9. $\sqrt{49a^4b^{12}}$

10. $\sqrt{121x^{14}y^6}$

Simplify (Simplifying Radicals that are not Perfect Squares):

1. $\sqrt{20} = \sqrt{4} \cdot \sqrt{5} = 2\sqrt{5}$

2. $\sqrt{27} = \sqrt{9}\sqrt{3} = 3\sqrt{3}$

3. $\sqrt{48} = \sqrt{16}\sqrt{3} = 4\sqrt{3}$

4. $\sqrt{45} = \sqrt{\quad}\sqrt{\quad} = \underline{\quad}\sqrt{\quad}$

5. $\sqrt{12} = \sqrt{\quad}\sqrt{\quad} = \underline{\quad}$

6. $\sqrt{50} =$

7. $\sqrt{a^5} = \sqrt{a^4}\sqrt{a} = a^2\sqrt{a}$

8. $\sqrt{x^9} = \sqrt{\quad}\sqrt{\quad} = \underline{\quad}$

9. $\sqrt{x^3} =$

Simplify:

1. $\sqrt{18}$

2. $\sqrt{125}$

3. $\sqrt{72}$

4. $\sqrt{180}$

5. $\sqrt{a^3}$

6. $\sqrt{b^7}$

7. $\sqrt{m^{11}}$

8. $\sqrt{75x^7y^5}$

9. $\sqrt{27a^{11}b^7}$

10. $\sqrt{32a^7b^4}$

11. $\sqrt{9a^8}$

12. $\sqrt{45a^7}$

13. $\sqrt{36x^2y^6}$

14. $\sqrt{12x^{20}y^8}$

15. $-\sqrt{200}$

16. $\sqrt{196}$

17. $\sqrt{63x^4y}$

18. $\sqrt{6x^3}$

19. $\sqrt{100x^5y}$

20. $\sqrt{80x^{100}y^{49}}$

Homework Simplifying Radicals

Name _____

Class Time _____

Simplify each of the following expressions completely.

_____ 1. $\sqrt{64}$

_____ 2. $-\sqrt{18}$

_____ 3. $\sqrt{32}$

_____ 4. $\sqrt{50}$

_____ 5. $\sqrt{400}$

_____ 6. $\sqrt{x^6}$

_____ 7. $\sqrt{x^7}$

_____ 8. $\sqrt{16x^{16}}$

_____ 9. $\sqrt{9x^9}$

_____ 10. $\sqrt{40x^8}$

_____ 11. $\sqrt{25x^7}$

_____ 12. $\sqrt{12x^5}$

_____ 13. $\sqrt{a^2b^4}$

_____ 14. $\sqrt{49a^8x^{12}}$

_____ 15. $\sqrt{28x^9y^6}$

_____ 16. $\sqrt{32m^7n^{11}}$

_____ 17. $\sqrt{20x^{10}y^5}$

_____ 18. $\sqrt{100ab^4}$

_____ 19. $\sqrt{75x^8y^3}$

_____ 20. $\sqrt{98x^7y^5}$

_____ 21. $\frac{x^2+16x+63}{2x^2+19x+9}$