

Math 103
Professor Busken
Chapter 7 Worksheet 1

Name: _____

Find the square root of each.

1. $\sqrt{100}$ 1. _____

2. $\sqrt{64}$ 2. _____

3. $-\sqrt{81}$ 3. _____

4. $-\sqrt{121}$ 4. _____

5. $\sqrt{-16}$ 5. _____

6. $\sqrt{\frac{1}{4}}$ 6. _____

7. $-\sqrt{\frac{49}{16}}$ 7. _____

8. $-\sqrt{\frac{4}{25}}$ 8. _____

Find the cube root of each.

9. $\sqrt[3]{8}$ 9. _____

10. $\sqrt[3]{-8}$ 10. _____

11. $-\sqrt[3]{\frac{1}{8}}$ 11. _____

Find the fourth root of each.

12. $\sqrt[4]{1}$ 12. _____

13. $-\sqrt[4]{\frac{1}{16}}$ 13. _____

14. $\sqrt[4]{-16}$ 14. _____

Simplify each radical expression as much as possible. Assume all variables represent non-negative numbers.

15. $\sqrt{4x^2}$ 15. _____

16. $\sqrt[3]{-8x^6y^9}$ 16. _____

17. $\sqrt[4]{\frac{b^{12}}{16}}$ 17. _____

18. $\sqrt[5]{-32m^5}$ 18. _____

Write each expression as a radical expression and then simplify the result, if possible.

19. $(-8)^{1/3}$ 19. _____

20. $-(144)^{1/2}$ 20. _____

21. $(-144)^{1/2}$ 21. _____

22. $(-144)^{1/2}$ 22. _____

23. $-(81)^{1/4}$ 23. _____

Write the radical expression with a rational exponent and then simplify the result, if possible.

24. $\sqrt[4]{x^4y^8}$ 24. _____

25. $\sqrt[3]{x^6y^{18}}$ 25. _____

26. $\sqrt[2]{\frac{25x^2}{36}}$ 26. _____

Simplify as much as possible.

27. $9^{3/2}$ 27. _____

28. $16^{3/4}$ 28. _____

29. $8^{-2/3}$ 29. _____

30. $\left(\frac{16}{81}\right)^{-3/4}$ 30. _____