

Additional Exercises 7.4
Form I
Adding, Subtracting, and Dividing Radical Expressions

Add or subtract as indicated. Assume all variables represent positive real numbers.

1. $5\sqrt{5} + 3\sqrt{5}$ 1. _____

2. $6\sqrt{7} - \sqrt{7} + 2\sqrt{7}$ 2. _____

3. $4\sqrt[3]{6} - 2\sqrt[3]{6}$ 3. _____

4. $2\sqrt{5} + 4\sqrt[3]{5} - 6\sqrt{5}$ 4. _____

5. $3\sqrt{5} + 4\sqrt{125}$ 5. _____

6. $\sqrt[3]{8y} - \sqrt[3]{27y}$ 6. _____

7. $5\sqrt{8x^3y} + 2x\sqrt{32xy}$ 7. _____

8. $4\sqrt{12} - 2\sqrt{48}$ 8. _____

Use the quotient rule to simplify. Assume all variables represent positive real numbers.

9. $\sqrt{\frac{25}{4}}$ 9. _____

10. $\sqrt{\frac{13}{25}}$ 10. _____

Name _____

Date _____

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

11. _____

12. $\sqrt{\frac{14}{x^2}}$

12. _____

13. $\sqrt{\frac{50}{49}}$

13. _____

14. $\sqrt{\frac{12}{81}}$

14. _____

15. $\sqrt[3]{\frac{16}{y^6}}$

15. _____

Divide and simplify. Assume that all variables represent positive real numbers.

16. $\frac{\sqrt{100}}{\sqrt{4}}$

16. _____

17. $\frac{\sqrt{121}}{\sqrt{11}}$

17. _____

18. $\frac{\sqrt{80}}{\sqrt{5}}$

18. _____

19. $\frac{\sqrt{32x^7}}{\sqrt{4x}}$

19. _____

20. $\frac{\sqrt{150x^{11}}}{\sqrt{3x^5}}$

20. _____

Additional Exercises 7.4
Form II
Adding, Subtracting, and Dividing Radical Expressions

Add or subtract as indicated. Assume all variables represent positive real numbers.

1. $19\sqrt{19} + 8\sqrt{19}$ 1. _____

2. $17\sqrt{10} - 3\sqrt{10} + \sqrt{10}$ 2. _____

3. $6x^4\sqrt{20} - 3x^4\sqrt{20}$ 3. _____

4. $5\sqrt{6} - 6\sqrt{6} + 3\sqrt{6}$ 4. _____

5. $7\sqrt{28} + 3\sqrt{63}$ 5. _____

6. $\sqrt[3]{64y^2} - \sqrt[3]{125y^2}$ 6. _____

7. $4a\sqrt{12a^2b} + 3a^2\sqrt{27b}$ 7. _____

8. $3\sqrt{45x^3} - \sqrt{5x^3}$ 8. _____

Use the quotient rule to simplify. Assume all variables represent positive real numbers.

9. $\sqrt{\frac{13}{16}}$ 9. _____

10. $\sqrt{\frac{16x^2y}{49}}$ 10. _____

Name _____

Date _____

11. $\sqrt{\frac{9}{49}}$

11. _____

12. $\sqrt[3]{\frac{4}{27}}$

12. _____

13. $\sqrt{\frac{18}{y^4}}$

13. _____

14. $\sqrt[3]{\frac{32x}{2}}$

14. _____

15. $\sqrt{\frac{50x^2}{100x}}$

15. _____

Divide and simplify. Assume that all variables represent positive real numbers.

16. $\frac{\sqrt{144}}{\sqrt{4}}$

16. _____

17. $\frac{\sqrt{72}}{\sqrt{3}}$

17. _____

18. $\frac{\sqrt{90}}{\sqrt{10}}$

18. _____

19. $\frac{\sqrt{32x^9}}{\sqrt{2x}}$

19. _____

20. $\frac{\sqrt[3]{200y^{10}}}{\sqrt[3]{5y^4}}$

20. _____

Additional Exercises 7.4
Form III
Adding, Subtracting, and Dividing Radical Expressions

Add or subtract as indicated. Assume all variables represent positive real numbers.

1. $12\sqrt{10x} - 10\sqrt{10x}$ 1. _____

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

3. $6\sqrt{14} - 3\sqrt[3]{14} + 2\sqrt{14}$ 3. _____

4. $3\sqrt[3]{y} + \sqrt[3]{8y}$ 4. _____

5. $5\sqrt{80} - 4\sqrt{45}$ 5. _____

6. $10^4\sqrt{x^7} - 3x^4\sqrt{x^3} + 5^4\sqrt{x^5}$ 6. _____

7. $5\sqrt[3]{x^{16}y^2} + 2x^3\sqrt[3]{x^7x^2}$ 7. _____

8. $\sqrt{16x-32} + \sqrt{x-2}$ 8. _____

Use the quotient rule to simplify. Assume all variables represent positive real numbers.

9. $\sqrt{\frac{36}{100}}$ 9. _____

10. $\sqrt{\frac{25}{x^8}}$ 10. _____

Name _____

Date _____

11. $\sqrt[3]{\frac{24}{27}}$

11. _____

12. $\sqrt[4]{\frac{48}{81}}$

12. _____

13. $\sqrt[3]{\frac{16}{x^9}}$

13. _____

14. $\sqrt{\frac{20x^4}{36x^2}}$

14. _____

15. $\sqrt{\frac{32x^2y}{49}}$

15. _____

Divide and simplify. Assume that all variables represent positive real numbers.

16. $\frac{\sqrt{196}}{\sqrt{36}}$

16. _____

17. $\frac{\sqrt[3]{125}}{\sqrt[3]{216}}$

17. _____

18. $\frac{\sqrt{225x^{11}}}{\sqrt{3x^9}}$

18. _____

19. $\frac{\sqrt{420x^5y^6}}{\sqrt{7xy}}$

19. _____

20. $\frac{\sqrt{360a^3b^2}}{\sqrt{9a^3}}$

20. _____