

Section 1.5 – Chapter Summary

Problem Set 3

Simplify the following expressions.

1. $t^3 \cdot t$

2. c^{-2}

3. $m^{5/8} m^{7/8}$

4. $\sqrt{1600}$

5. $\sqrt{164}$

6. $\frac{x^5 y^{-7} z^{-8}}{w^{-4} x^{-2} y^{-3}}$

7. $\frac{-2}{\sqrt{6} - \sqrt{3}}$

8. $(p^3 \cdot p^{-6} \cdot p^{-4})^{-3}$

9. $-5\sqrt{75}$

10. $\left(\frac{a^3 b^5}{a^{-2} b^{-8}}\right)^{-2}$

11. $\frac{-6}{1 - 4\sqrt{2}}$

12. $(q^3 \cdot q^{5/8})^{10}$

13. $\frac{14}{\sqrt{58}}$

14. $3h^3 - 5f^3$

15. $\frac{u^8}{u^{-2}}$

16. $\frac{-5}{\sqrt{10}}$

Replace the fractional exponents with the equivalent “root” expression.

17. $p^{4/3}$

18. $a^{1/7}$

19. $n^{5/8}$

20. $j^{7/9}$

Replace the “root” expression with the equivalent fractional exponent.

21. $\sqrt{x^{14}}$

22. $\sqrt[7]{u^4}$

22. $\sqrt[3]{t^{15}}$

24. $\sqrt[10]{z^4}$

Simplify the following expressions.

25. $b^{7/2} b^{9/2}$

26. $\frac{g^{8/5}}{g^{7/3}}$

27. $\sqrt[9]{t^{12} s^{14} r^{15}}$

28. $\frac{\sqrt[6]{p^2} \sqrt[9]{p^{12}}}{\sqrt[3]{p^7}}$

29. $\frac{(cp^3)^{2/3}}{(cp^3)^{2/7}}$

30. $x^{2/5} x^{3/5} - \frac{12x^{7/8}}{3x^{-1/8}}$

31. $\frac{\sqrt[8]{k^9}}{\sqrt[4]{k^7}}$

32. $\frac{\sqrt{b}}{\sqrt[3]{b^8 c^9}}$

33. $\sqrt[3]{u^{18}}$

34. $\sqrt{a^2 b^9 c^{15}} \cdot \sqrt[10]{a^{20} b^{11}}$

35. $\sqrt[5]{s^2} \sqrt[7]{s}$

36. $\frac{\sqrt[7]{b^{16}}}{\sqrt[3]{b}}$