

pg. 362 # 2-24 even pg. 366 # 15-48 x 3

2. $(-4x^2)(-2x^{-2})$

multiply coefficients $(-4)(-2) = 8$
add exponents $(x^2)(x^{-2}) = x^{2+(-2)} = x^0$
zero exponent \rightarrow expression = 1 $x^0 = 1$
 $8 \cdot 1 = 8$

3. $\sqrt{\frac{-1}{121}}$ no real root

6. $\sqrt[3]{.125} = 0.5$

9. $x^4 = 16$
 $\sqrt[4]{x^4} = \pm \sqrt[4]{16}$
 $x = \pm 2$

15. $\sqrt{-36}$ no real root

21. $\sqrt{16x^2}$ (even index, odd variable exponent)
 $= 4|x|$

30. $V = \frac{4}{3}\pi r^3$

$20 = \frac{4}{3}\pi r^3$

$15 = \pi r^3$

$4.77 = r^3$

$\sqrt[3]{4.77} = r$

$1.68 \text{ ft} = r$

33. $x^2 = 100$

$\sqrt{x^2} = \pm \sqrt{100}$

$x = \pm 10$

39. $\sqrt[3]{.125}$

$= .5$

pg. 362 #2-24 even

$$4) \frac{8y^{12}}{x^{15}}$$

$$6) 2x^8y^5$$

$$8) \frac{9x^4}{4}$$

$$10) \frac{1}{27x^{12}y^{15}}$$

$$12) 8x^8$$

$$14) 18y^5$$

$$16) 2x^2$$

$$18) -5x^3$$

$$20) 3x^2$$

$$22) \frac{x^6y^4}{9}$$

$$24) r^2s^3t^2$$

Answers for Lesson 7-1, pp. 366–367 Exercises

1. 15, -15 2. 0.07, -0.07 3. none
 4. $\frac{8}{13}, -\frac{8}{13}$ 5. -4 6. 0.5
 7. $-\frac{1}{2}$ 8. 0.07 9. 2, -2
 10. none 11. 0.3, -0.3 12. $\frac{10}{3}, -\frac{10}{3}$
 13. 6 14. -6
 15. no real-number root 16. 0.6
 17. -4 18. -4
 19. -3 20. no real-number root
 21. $4|x|$ 22. $0.5|x^3|$ 23. $x^4|y^9|$
 24. $8b^{24}$ 25. $-4a$ 26. $3y^2$
 27. $x^2|y^3|$ 28. $2y^2$ 29. 1.34 in.
 30. 1.68 ft 31. 0.48 cm 32. 0.08 mm
 33. 10, -10 34. 1, -1 35. 0.5, -0.5
 36. $\frac{2}{3}, -\frac{2}{3}$ 37. $\sqrt[3]{-64}, \sqrt[6]{64}, -\sqrt[3]{-64}, \sqrt{64}$
 38. a. ≈ 35 ft
 b. ≈ 20 ft longer
 39. 0.5 40. $\frac{1}{3}$ 41. 0.2
 42. $\frac{1}{4}$ 43. $2|c|$ 44. $3xy^2\sqrt[3]{3}$
 45. $12y^2z^2k\sqrt{xz}$ 46. y^4 47. $-y^4$
 48. k^3 49. $-k^3$ 50. $|x + 3|$
 51. $(x + 1)^2$ 52. $|x|$
 53. x^2 54. $|x^3|$

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