Algebra 2 Honors Name Key

Section 6.4 p.410, {when to use absolute values - even index, even exponent, odd exponent when simplified}

12. $\pm\sqrt{121x^4y^{16}}$

$\pm 11x^2y^8\sqrt{\ }$

$\pm 11x^2y^8$

14. $\pm\sqrt{49x^4}$

$\pm 7x^2$

16. $-\sqrt{81a^{16}b^{20}c^{12}}$

$-9a^8b^{10}c^6$

18. $\sqrt{(x+15)^4}$

$(x+15)^2$

20. $\sqrt{(a^2+4a)^{12}}$

$(a^2+4a)^6$

22. $\sqrt[6]{d^{24}x^{36}}$

d^4x^6

24. $-\sqrt{(2x+1)^6}$

even (2) $\sqrt{(2x+1)^6}$ even

$-|(2x+1)^{\frac{6}{2}}|$ odd

need absolute value

26. $\sqrt[3]{-(y-9)^9}$

$-(y-9)^3$

28. $\sqrt[4]{a^{12}}$

$|a^3|$

30. $\sqrt[4]{81(x+4)^4}$

$3|(x+4)|$

32. $\sqrt[3]{(y^3+5)^{18}}$

$(y^3+5)^6$

34. $\sqrt[8]{x^{16}y^8}$

$x^2|y|$

36. $N = V \cdot F^3$

$21.6 = 0.8\ F^3$

$27 = F^3$

the scale factor is 3

37. $r = \sqrt[3]{V}$

$r = \sqrt[3]{512}$

$r = 8$

8cm.

38. 9.592

40. 0.056

42. 5.518

44. $\sqrt[6]{(8912)^2}$

$\sqrt[3]{8912}$

20.733

46a. $r = \sqrt[3]{\frac{3V}{4\pi}} \Rightarrow$ $1000\,cm^3 \Rightarrow 6.2\,cm$

$8000\,cm^3 \Rightarrow 12.4\,cm$

$64000\,cm^3 \Rightarrow 24.8\,cm$

46b. As r doubles, the volume increases by a factor of 2^3 or 8.

47. $\sqrt{196c^6d^4}$

$14|c^3|d^4$

49. $\sqrt[3]{-27a^{15}b^9}$

$-3a^5b^3$

51. $\sqrt{400x^{16}y^6}$

$20x^8|y^3|$

57. eagle ≈ 226.5

retriever ≈ 939.6

dragon ≈ 1881.8

dolphin ≈ 3235.5

elephant

24,344.4

59. Kimi is correct, y^2 is not a odd exponent so it is no necessary

81. $(2a^2+6)^2$

$4a^4+24a^2+36$

82. $22.087 \leq K \leq 67.91$ mph

83. opens down

vertex is $(-2, 3)$

axis of symmetry is $x=-2$