

ANSWER PRESENTATION TOOL

Algebra 2 - Student Edit

5

1 - Practice

2-38

ALL EVEN

Show Sol

ODD

2. Because $n = 5$ is odd and $a = -1 < 0$, -1 has one real fifth root. Because $(-1)^5 = -1$, you can write $\sqrt[5]{-1} = -1$ or $(-1)^{1/5} = -1$.

4. Because $n = 4$ is even and $a = 256 > 0$, 256 has two real fourth roots. Because $4^4 = 256$ and $(-4)^4 = 256$, you can write $\pm\sqrt[4]{256} = \pm 4$ or $\pm 256^{1/4} = \pm 4$.

6. Because $n = 6$ is even and $a = -729 < 0$, -729 has no real sixth roots.

$$8. 8^{1/3} = (2^3)^{1/3} = 2$$

$$10. 32^{4/5} = (32^{1/5})^4 = 2^4 = 16$$

$$12. (-64)^{4/3} = [(-64)^{1/3}]^4 = (-4)^4 = 256$$

$$14. 16^{-7/4} = (16^{1/4})^{-7} = 2^{-7} = \frac{1}{2^7} = \frac{1}{128}$$

16. The exponent $3/2$ represents the cube of a square root.

$$64^{3/2} = (\sqrt{64})^3 = 8^3 = 512$$

18. D; The denominator of the exponent is 4 and the numerator is 3.

20. C; The denominator of the exponent is 4 and expression is negative.

$$22. \sqrt[7]{1695} \approx 2.89$$

$$24. 85^{1/6} \approx 2.10$$

$$26. 86^{-5/6} \approx 0.02$$

$$28. (\sqrt[5]{-8})^8 \approx 27.86$$

$$30. 5x^3 = 1080$$

$$x^3 = 216$$

$$x = 6$$

The solution is $x = 6$.

$$32. (x - 5)^4 = 256$$

$$x - 5 = \pm 4$$

$$x = 5 \pm 4$$

The solutions are $x = 1$
and $x = 9$.

34. $7x^4 = 56$

$x^4 = 8$

$x \approx \pm 1.68$

The solutions are $x \approx -1.68$
and $x \approx 1.68$.

36. $x^3 + 40 = 25$

$x^3 = -15$

$x \approx -2.47$

The solution is $x \approx -2.47$.

38. $\frac{1}{6}x^3 = -36$

$x^3 = -216$

$x = -6$

The solution is $x = -6$.

