

A.APR.B.3: Solving Polynomial Equations 2

- 1 Solve: $x^4 + 4x^2 = 32$. Find 4 roots.
- 2 Find *four* roots of the following equation: $2x^4 + 5x^2 = 207$
- 3 Denise is designing a storage box in the shape of a cube. Each side of the box has a length of 10 inches. She needs more room and decides to construct a larger box in the shape of a cube with a volume of 2,000 cubic inches. By how many inches, to the *nearest tenth*, should she *increase* the length of each side of the original box?

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Answer Section

1 ANS:

$$\pm 2, \pm 2i\sqrt{2}$$

REF: 089409al

2 ANS:

$$\pm 3, \pm \frac{i\sqrt{46}}{2}$$

REF: 089812al

3 ANS:

$$V = s^3$$

2.6. $2000 = (s + 10)^3$. Increase the length of each side of the box by 2.6 inches (12.6 – 10).

$$\sqrt[3]{2000} = s + 10$$

$$s \approx 12.6$$

REF: 060724b