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5/(# of Boston Celtics championships - # of Los Angeles Lakers championships)

We WILL be turning in warmups this week!!!

- 1) Give a reason why one of the numbers doesn't belong. You must come up with at least one reason for all four numbers.

17	26
44	65

**PLEASE GET A
WHITEBOARD/
MARKER/ERASER!**

REMINDER

- Line designs are due Wednesday.
- You may turn them in anytime. Make sure you have your name on the back, and be sure to turn in your rubric as well.

Schedule

- Estimating Roots
- Simplifying Radicals
- Quiz Thursday

How do you take the square root of a number?

What is a perfect square?

What is a Perfect square?

- "An integer that is a square of an integer"
- 1, 4, 9, 16, 25, etc.
- Write down as many perfect squares as you can in a minute.

How do you take the cube root of a number?

Estimating Roots

- Your estimates should be to the nearest **hundredth** (two decimal place)
- 20 seconds per estimate (until we get to harder ones)
- 1 point for being the closest
- 2 points for getting it EXACT

$$\sqrt{5} \approx 2.24$$

$$\sqrt{47} \approx 6.86$$

$$\sqrt{83} \approx 9.11$$

$$\sqrt{18} \approx 4.24$$

$$\sqrt{2} \approx 1.41$$

$$\sqrt{34}$$

$$\approx 5.83$$

$$\sqrt{150}$$

$$\approx 12.25$$

$$\sqrt{56}$$

$$\approx 7.48$$

$$\sqrt{103}$$

$$\approx 10.15$$

$$\sqrt{300}$$

$$\approx 17.32$$

$$\sqrt{215}$$

$$\approx 14.66$$

$$\sqrt[3]{10}$$

$$\approx 2.15$$

$$\sqrt[3]{124}$$

$$\approx 4.99$$

$$\sqrt[3]{70}$$

$$\approx 4.12$$

$$\sqrt[3]{25}$$

$$\approx 2.92$$

$$\sqrt[3]{400}$$

$$\approx 7.37$$

$$\sqrt[3]{2000}$$

$$\approx 12.59$$

$$\sqrt{\sqrt[3]{8}} \approx 1.41$$

$$\sqrt[3]{\sqrt[3]{1000}} \approx 2.15$$

IMPORTANT CONCEPT:

$$\begin{aligned} &\sqrt{16} \cdot \sqrt{16} \\ &\sqrt{49} \cdot \sqrt{49} \\ &\sqrt{324} \cdot \sqrt{324} \\ &\sqrt{37} \cdot \sqrt{37} \\ &\sqrt{8} \cdot \sqrt{8} \end{aligned}$$

Estimate the value of:

$$\begin{aligned} &(\sqrt{10})^3 \\ &= \sqrt{10} \cdot \sqrt{10} \cdot \sqrt{10} \\ &= 10 \cdot \sqrt{10} \\ &\approx 10 \cdot 3.2 \\ &\approx 32 \end{aligned}$$

These equal 10

Estimate the value of:

$$\begin{aligned} &(\sqrt{8})^3 \\ &= \sqrt{8} \cdot \sqrt{8} \cdot \sqrt{8} \\ &= 8 \cdot \sqrt{8} \\ &\approx 8 \cdot 2.8 \\ &\approx 22.4 \end{aligned}$$

These equal 8

Estimate the value of:

$$\begin{aligned} &(\sqrt{33})^3 \\ &= \sqrt{33} \cdot \sqrt{33} \cdot \sqrt{33} \\ &= 33 \cdot \sqrt{33} \\ &\approx 33 \cdot 5.7 \\ &\approx 188.1 \end{aligned}$$

These equal 33

Estimate the value of:

$$\begin{aligned} & (\sqrt{5})^7 \\ & = \sqrt{5} \cdot \sqrt{5} \cdot \sqrt{5} \cdot \sqrt{5} \cdot \sqrt{5} \cdot \sqrt{5} \cdot \sqrt{5} \\ & = 5 \cdot 5 \cdot 5 \cdot \sqrt{5} \\ & \approx 125 \cdot 2.2 \\ & \approx 275 \end{aligned}$$

The value of an irrational number expression is estimated to be between 18 and 19.
Which could be the expression?

- A. $(\sqrt{2})^9$ **ONE POINT**
- B. $(\sqrt{3})^5$
- C. $(\sqrt{6})^3$ **D**
- D. $(\sqrt{7})^3$