Lesson 2.3 Cube Roots

Cube roots can be estimated by finding cube roots on either side of the desired root. $\sqrt[3]{130}$ is between 5 and 6 because $\sqrt[3]{125}$ is 5 and $\sqrt[3]{216}$ is 6. Therefore, $\sqrt[3]{130}$ is between 5 and 6, but closer to 5 because 130 is closer to 125 than it is to 216.

Fractions can also have cube roots. For example, $\sqrt[3]{\frac{1}{8}} = \frac{1}{2}$ because $\frac{1}{2} \times \frac{1}{2} \times \frac{1}{2} = \frac{1}{8}$.

Find the cube root of each number.

a	b	c
1. $\sqrt[3]{\frac{1}{64}}$ = _____	$\sqrt[3]{\frac{8}{27}}$ = _____	$\sqrt[3]{512}$ = _____
2. $\sqrt[3]{0}$ = _____	$\sqrt[3]{\frac{64}{125}}$ = _____	$\sqrt[3]{1}$ = _____
3. $\sqrt[3]{\frac{8}{216}}$ = _____	$\sqrt[3]{\frac{125}{343}}$ = _____	$\sqrt[3]{64}$ = _____

Estimate the following cube roots.

4. $\sqrt[3]{10}$ is between _____ and _____ but closer to _____ .

5. $\sqrt[3]{110}$ is between _____ and _____ but closer to _____ .

6. $\sqrt[3]{500}$ is between _____ and _____ but closer to _____ .

7. $\sqrt[3]{155}$ is between _____ and _____ but closer to _____ .

8. $\sqrt[3]{1,322}$ is between _____ and _____ but closer to _____ .