M9

2.6 Cubes and Cube Roots

Perfect Cube Numbers = non-negative integers

0^3	0	6^3	216
1^3	1	7^3	343
2^3	8	8^3	512
3^3	27	9^3	729
4^3	64	10^3	1000
5^3	125	11^3	1331

Determine the cube roots of the given numbers:

Without a calculator:

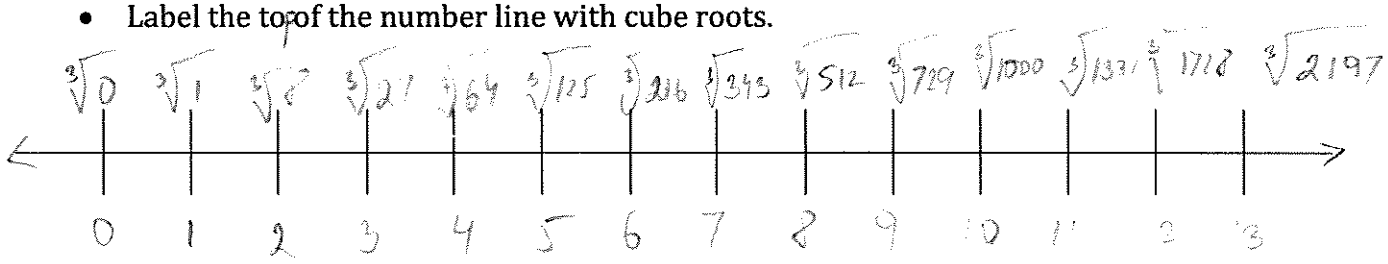
$\sqrt[3]{8}$	$\sqrt[3]{2^3} = 2$
$\sqrt[3]{64}$	$\sqrt[3]{4^3} = 4$
$\sqrt[3]{1000}$	$\sqrt[3]{10^3} = 10$
$\sqrt[3]{125}$	$\sqrt[3]{5^3} = 5$
$\sqrt[3]{1}$	$\sqrt[3]{1} = 1$

With a calculator: (round to the nearest tenth). #.—

$\sqrt[3]{15}$	≈ 2.5
$\sqrt[3]{90}$	≈ 4.5
$\sqrt[3]{48}$	≈ 3.6
$\sqrt[3]{150}$	≈ 5.3
$\sqrt[3]{7}$	≈ 1.9

Complete the number line:

- Add arrow that show that the number line continues to positive and negative infinity.
- Label the bottom of the number line with non-negative integers.
- Label the top of the number line with cube roots.



Use the above number line to estimate cube roots to the nearest tenth. #.—

$\sqrt[3]{5}$	$\sqrt[3]{12}$	$\sqrt[3]{28}$	$\sqrt[3]{256}$	$\sqrt[3]{700}$
≈ 1.7	≈ 2.2	≈ 3.1	≈ 6.4	≈ 8.9

Check your above estimates and note whether you were correct or not. Round to the nearest tenth. #.—

	$\sqrt[3]{5}$	$\sqrt[3]{12}$	$\sqrt[3]{28}$	$\sqrt[3]{256}$	$\sqrt[3]{700}$
Calculated value rounded to the nearest tenth.	≈ 1.7	≈ 2.3	≈ 3.0	≈ 6.3	≈ 8.9
Correct? Yes or No.	Y	N	N	N	Y