ALGEBRA 1 · CLASSWORK

Compare Rates of Change of a Function

SCORE / 25

01 Part A · Practice

The cube root graph is steepest near its center; its average rate of change shrinks as you move away from it.

EXAMPLE

Compare the rate of change of $f(x) = \sqrt[3]{x}$ on $[0, 1]$ and on $[1, 8]$.

1. $[0, 1]$: $\frac{1 - 0}{1 - 0} = 1$.
2. $[1, 8]$: $\frac{2 - 1}{8 - 1} = \frac{1}{7}$.
3. It is steeper near 0.

1 ●○○ The table shows a cube root function. Find its average rate of change from $x = -1$ to $x = 8$.

x	−27	−8	−1	0	1	8	27
y	5	3	1	−1	−3	−5	−7

2 ●○○ Find the average rate of change of $f(x) = 6\sqrt[3]{x}$ from $x = 8$ to $x = 64$.

3 ●○○ Find the average rate of change of $g(x) = 3\sqrt[3]{x - 2} - 1$ on $-6 \leq x \leq 1$.

4 ●○○ The table shows a cube root function. Find its average rate of change from $x = -8$ to $x = 1$.

x	−27	−8	−1	0	1	8	27
y	6	4	2	0	−2	−4	−6

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Preview - the full worksheet and its answer key are at primeworksheet.com