

Growth rate

2 questions

1
point

1.

Order the given functions by increasing growth rate.

$$f_1(n) = n^3$$

$$f_2(n) = n^{0.3}$$

$$f_3(n) = n$$

$$f_4(n) = \sqrt{n}$$

$$f_5(n) = \frac{n^2}{\sqrt{n}}$$

$$f_6(n) = n^2$$

As an answer, provide a string of length exactly six (with no spaces or quotes) containing the numbers of six functions (the first number indicates the function with the slowest growth rate, while the last number indicates the function with the highest growth rate). For example, for a similar, but simpler problem $f_1(n) = n^2$, $f_2(n) = n$, $f_3(n) = n^3$ the answer would be 213.

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point

2.

Order the given functions by increasing growth rate.

$$f_1(n) = 3^n$$

$$f_2(n) = n \log_2 n$$

$$f_3(n) = \log_4 n$$

$$f_4(n) = n$$

$$f_5(n) = 5^{\log_2 n}$$

$$f_6(n) = n^2$$

$$f_7(n) = \sqrt{n}$$

$$f_8(n) = 2^{2n}$$

As an answer, provide a string of length exactly eight (with no spaces or quotes) containing the indices of eight functions (so, the first number indicates the function with the slowest growth rate, while the last number indicates the function with the highest growth rate). For example, for a similar, but simpler problem $f_1(n) = 2^n$, $f_2(n) = \log_2 n$, $f_3(n) = n^2$ the answer would be 231.

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