

## Engineering Notation and Prefixes Study Guide (48:21)

Explain the goal of engineering notation and prefixes.

Bracket these numbers into readable quantities:

560000V

10000000Ω

0.000020A

0.000000000033F

Determine the appropriate power of ten for these numbers:

1,000,000,000,000

1,000,000,000

1,000,000

1,000

1

0.001

0.000,001

0.000,000,001

0.000,000,000,001

Bracket these numbers into groups of 3 and determine the coefficient greater than 1 and less than 1000 and to which power of ten the coefficient is multiplied by:

33000

23800000

24

0.196

8700000000

0.047

0.000047

284000000000

0.000000000022

Arrange the above numbers in order of magnitude

Attach engineering prefixes to the powers of ten:

Name   prefix   power of ten

1,000,000,000,000

1,000,000,000

1,000,000

1,000

1

0.001

0.000,001

0.000,000,001

0.000,000,000,001

Comment on mixed use of powers of ten and engineering prefixes

Make use of engineering prefixes for these numbers

100000V

0.000000000002s

6750000W

0.000000050m

69000V

0.05s

120V

0.0173A

8200000Ω

Order these numbers with respect to their magnitude and express them without using engineering prefixes or powers of ten:

840pZ

506mZ

6MZ

4Z

1.2GZ

5mZ

Comment on the means the TI-89 uses to display engineering format: \_\_\_E\_\_\_

Determine which prefix should be employed by these numbers as displayed on the TI-89

47E-6F

3.9E3Ω

70E-3A

680E0Ω

22E-9F

2.3E6W

1.15E9Wh

Enter these numbers into the TI-89 in the most efficient fashion, how would the calculator display these numbers in engineering format?

68kΩ

8.3MW

39μF

$2.56 \cdot 10^{-7} \text{g}$