

Approximating e^n :

- A. Unfortunately, there is no easy way to calculate e raised to some power 'n' like there is with π . At least, not one that I know of. Because of this, one can only memorize approximates to these powers.
- B. Below are approximates of the powers of e , taken to the 8th power. There should be little need to memorize any more than this.

e^n and its approximate value

e^1	2.7	e^5	150
e^2	7.5	e^6	400
e^3	20	e^7	1100
e^4	55	e^8	3000

- C. Here are some ways we can use these approximations in a question:

Ex [1] $(5e)^3 = \underline{\hspace{2cm}}$.

- Using the chart above, we can approximate this to be $5^3 \times 20$ or 125×20 .
- $125 \times 20 = 2500$.
- The answer can be between 2386 and 2636.

Ex [2] $137e^7 = \underline{\hspace{2cm}}$.

- Using the chart we can approximate this to be 137×1100 .
- $137 \times 1100 = 150700$.
- The answer can be between 142727 and 157750.

- D. This method of memorizing is not ideal, but it was the way I did them when I was taking the tests. If you have your own way, then by all means use it.
- E. Also, note that these are already approximates. It would not be wise to approximate these approximates as you might get beyond the 5% window. These approximates, taken like they are, are guaranteed.