

What is Kaprekar's constant?

Consider any four-digit number, say 1732.

Arrange its digits in decreasing and increasing order, that's 7321 and 1237, take the difference, and you get

$$1732 : \quad 7321 - 1237 = 6084$$

$$6084 : \quad 8640 - 0468 = 8172$$

$$8172 : \quad 8721 - 1278 = 7443$$

$$7443 : \quad 7443 - 3447 = 3996$$

$$3996 : \quad 9963 - 3699 = 6264$$

$$6264 : \quad 6642 - 2466 = 4176$$

$$4176 : \quad 7641 - 1467 = 6174$$

$$6174 : \quad 7641 - 1467 = 6174$$