January 18th

Example:

Choose 2,3 and 6

S = 2 + 3 + 6= 11

The six possible three digit numbers

236, 263, 326, 362, 623, 632

T = 2442

T ÷ S = 2442 ÷ 11 = 222

This will always be the case, since

If the 3 digits are a, b and c

Then the six possible digit numbers are

“abc, acb, bac, bca, cab, cba”

Algebraically:

T =

100a + 10b + c +

100a + 10c + b +

100b + 10a + c +

100b + 10c + a +

100c + 10a + b +

100c + 10b + a =

222a + 222b + 222c = 222(a + b + c)

Therefore T÷S = = 222(a + b + c) ÷ (a + b + c) = 222