

December 11th

$$x = 4999(1 + 2 + 3 + \dots + 5000)$$

$$y = 5000(1 + 2 + 3 + \dots + 4999)$$

Find the value of $x - y$

$$x = 4999 \times \frac{5001 \times 5000}{2}$$

$$y = 5000 \times \frac{5000 \times 4999}{2}$$

$$x - y = \frac{4999 \times 5000}{2} (5001 - 5000)$$

$$= 4999 \times 2500$$

$$= \mathbf{12,497,500}$$