

February 21st

Choose any four consecutive odd integers.

Find the product of the middle two integers.

Find the product of the smallest and largest integers.

Example:

5, 7, 9, 11

$$7 \times 9 = 63$$

$$5 \times 11 = 55$$

These differ by 8

Algebraically:

$x, (x + 2), (x + 4), (x + 6)$ where x is odd

$$x(x + 6) = x^2 + 6x$$

$$(x + 2)(x + 4) = x^2 + 6x + 8$$

This proves they will always differ by 8