

Attendance Quiz 0

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Part 1:

1.) Who was Kurt Gödel, and why was he important?

A.) Kurt Gödel was a logician, mathematician, & philosopher.

He was one of the greatest mathematicians and logicians of the 20th century.

He passed away in 1978.

2.) How old was Gauss when he came up w/ his formula?

A.) Gauss discovered the formula $n(n+1)/2$ while in elementary school on "Gauss's Day of Reckoning" in the late 1780s.

3.) Calculate 54×57 algebraically, using positional notation.

$$\begin{aligned} 4.) \quad 54 \cdot 57 &= (5 \cdot 10 + 4 \cdot 1) \cdot (5 \cdot 10 + 7 \cdot 1) \\ &= (5 \cdot 10)(5 \cdot 10) + (5 \cdot 10)(7 \cdot 1) + (4 \cdot 1)(5 \cdot 10) + (4 \cdot 1)(7 \cdot 1) \\ &= 5 \cdot 5 \cdot 100 + 5 \cdot 7 \cdot 10 + 4 \cdot 5 \cdot 10 + \cancel{28} + 4 \cdot 7 \cdot 1 \\ &= 25 \cdot 100 + 35 \cdot 10 + 20 \cdot 10 + 28 \cdot 1 \\ &= 2500 + 350 + 200 + 28 \\ &= 3078 \end{aligned}$$

Part II

$$\begin{aligned} 1. \text{ a) } 182 &= 125 + 50 + 5 + 2 \\ &= 125 + 2(25) + 5 + 2(1) \\ &= 5^3 + 2(5^2) + 5^1 + 2(5^0) \\ &= 1 \cdot 5^3 + 2 \cdot 5^2 + 1 \cdot 5^1 + 2 \cdot 5^0 \end{aligned}$$

$$b) 182 = 1212$$

$$\begin{aligned} 2. \quad 1000,001 &= 1 \cdot 2^6 + 0 \cdot 2^5 + 0 \cdot 2^4 + 0 \cdot 2^3 + 0 \cdot 2^2 + 0 \cdot 2^1 \\ &= 64 + 1 \\ &= 65 \end{aligned}$$