

Mathematical Induction and Proof by Contradiction

10/10/2023

Prove Algebra 2 Math Exam Review (2023-2024)

Section 1.1.1.1 - 1.1.1.2

Section 1.1.1.1

- $$\frac{(2n+1) - (2n-1)}{(2n+1) + (2n-1)} = \frac{2}{4n} = \frac{1}{2n}$$
- $$\frac{(2n+1) - (2n-1)}{(2n+1) + (2n-1)} = \frac{2}{4n} = \frac{1}{2n}$$
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Section 1.1.2

- $$(x^2 - 1)^2 - (x^2 - 1)(x + 1) = (x^2 - 1)(x^2 - 1 - x - 1) = (x^2 - 1)(x^2 - x - 2)$$
- $$(x^2 - 1)^2 - (x^2 - 1)(x + 1) = (x^2 - 1)(x^2 - x - 2)$$

Section 1.2

- $$(x^2 - 1)^2 - (x^2 - 1)(x + 1) = (x^2 - 1)(x^2 - x - 2)$$
- $$(x^2 - 1)^2 - (x^2 - 1)(x + 1) = (x^2 - 1)(x^2 - x - 2)$$

Section 1.3

Table with 2 columns: Year, Amount

Year	Amount
2010	100
2011	110
2012	121
2013	133
2014	146
2015	161

$$A_n = 100(1.1)^n$$

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$$A_n = 100(1.1)^n$$

13. Prove the sum of the first n natural numbers is $\frac{n(n+1)}{2}$.

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