

Holiday Message – Algebra

Simplify the following expression, showing all work!

$$\left\{ \left[(X+A)(X-A)M + A^2M \right] E \right\} \cdot \left\{ \left[\frac{\frac{R+X}{X} + \frac{X}{R-X}}{\frac{X}{R-X}} \right] - \left[\frac{4AS}{3X[(E+Y)^2 - (E-Y)^2]} + \frac{4AS}{3E[(Y+X)^2 - (Y-X)^2]} + \frac{4AS}{3Y[(X+E)^2 - (X-E)^2]} \right] \right\} Y$$

Here is the message enlarged:

$$\left\{ \left[(X+A)(X-A)M + A^2M \right] E \right\} \cdot \left\{ \left[\frac{\frac{R+X}{X} + \frac{X}{R-X}}{\frac{X}{R-X}} \right] - \right.$$

$$\left. \left[\frac{4AS}{3X[(E+Y)^2 - (E-Y)^2]} + \frac{4AS}{3E[(Y+X)^2 - (Y-X)^2]} + \frac{4AS}{3Y[(X+E)^2 - (X-E)^2]} \right] \right\} Y$$