May 25, 2007

Homework sheet 8 (Algebra, geometric and technic issues) Name:

Question 1. When \((x + y)^2 = x^2 + y^2\)?

Question 2. Fast way to compute:

\[57^2 - 55^2 = \quad ; \quad 65 \times 65 = \quad .\]

Question 3. Simplify

\[
\left(\frac{1}{3}x + \frac{2}{5}x\right) - \left(\frac{2}{3} + \frac{2}{5}\right)x = \quad ; \quad \left(\frac{1}{3} + x\right) - \left(\frac{2}{3} + x\right) = \quad .
\]

Question 4. If \(x = 2\), show that \(x^4 - 2x^2 - 8 = 0\).

Question 5. If \(x = -2\), find

\[x^4 - 2x^2 = \]

Question 6. If

\[
\frac{x - 2}{x} = \frac{3}{4},
\]

can you find \(x = ?\)