Answer on Question #77255 – Math – Algebra

Question

Insert four geometric means between 10 and 100 such that the sequence form a GP

Solution

The sixth member of geometric progression

$b_n = b_1 \cdot q^{n-1}$

$b_6 = b_1 \cdot q^{6-1} = b_1 \cdot q^5$

$100 = 10 \cdot q^5$

$q^5 = 10$

$q = \sqrt[5]{10} = 1.585$

$b_1 = 10$

$b_2 = 10 \cdot (1.585)^{2-1} = 15.85$

$b_3 = 10 \cdot (1.585)^{3-1} = 25.12$

$b_4 = 10 \cdot (1.585)^{4-1} = 39.82$

$b_5 = 10 \cdot (1.585)^{5-1} = 63.11$

$b_6 = 100$

Answer: $b_1 = 10;\ b_2 = 15.85; b_3 = 25.12; b_4 = 39.82; b_5 = 63.11; b_6 = 100$