

4) Evaluate the quantity $x\sqrt{x^2+17} - x^2$; $x = 9^{10}$; 3 decimal places.

$$9^{10} = 3486784401 \approx 3.487 \times 10^9$$

$$(3.487 \times 10^9) \times \sqrt{(3.487 \times 10^9)^2 + 17} - (3.487 \times 10^9)^2$$

= 0.215 Because in this case, "+17" is insignificant. Big + small = Big

The precise answer: 8.500