

US5256 SUMMARY REVISION SHEET SOLUTIONS

1. Geometric series, finite sum = **20m**.
2. Geometric series sum to infinite = 12, starting height **$x = 4 m$**
3. a. 2.854 b. 1.979 c. 1.816
d. 1.048 e. -1.825 f. 0.045
4. a. $x^5 + 10x^4 + 40x^3 + 80x^2 + 80x + 32$
b. $2187 - 5103x + 5103x^2 - 2835x^3 + 945x^4 - 189x^5 + 21x^6 - x^7$
c. $81x^4 - 216x^3 + 216x^2 - 96x + 16$
d. $x^5 - 10x^3 + 40x - 80x^{-1} + 80x^{-3} - 32x^{-5}$
e. $x^{12} + 18x^{10} + 135x^8 + 540x^6 + 1215x^4 + 1458x^2 + 729$
5. a. $600x^2$ b. $-13608x^3$ c. $25515x^4$ d. $324135x^4$
6. $189x^{-1}$