

10 Power and Taylor series – Part 2

—Answers

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Work through these after you have tried the questions yourself.

2.1 an infinite sum of powers of x ($a_0 + a_1x + a_2x^2 + \dots$), like an infinitely long polynomial.

2.2 it builds a power series (polynomial) that matches and approximates a function near a chosen point.

2.3 it becomes more accurate (the polynomial hugs the function more closely).

2.4 polynomials are easy to add, differentiate, and integrate, so a series makes hard functions simple to compute with.

2.5 near the point it is centred on.