General solutions for homogeneous linear DEs

All of this culminates for us as a way to find the general solution for a homogeneous differential equation.

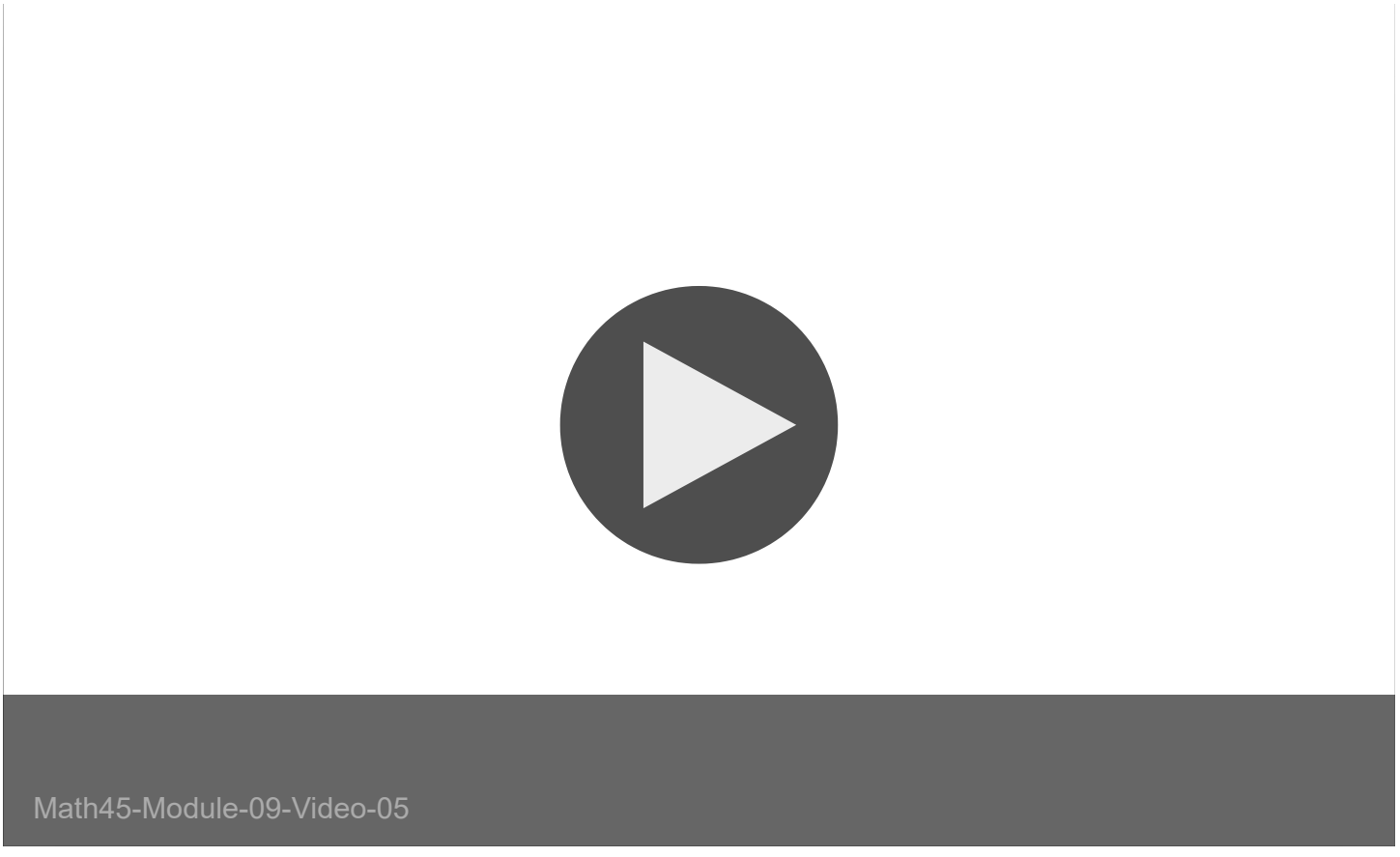
Theorem

If $y_1, y_2, \ldots, y_n$ form a fundamental set of solutions to a homogeneous linear nth-order differential equation on an interval I, then the general solution of the differential equation on I is

$$y = c_1 y_1 + c_2 y_2 + \cdots c_n y_n$$

for arbitrary constants $c_1, c_2, \ldots, c_n$.

Discussion, comments, and examples:



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WeBWorK module 09 exercises:

- Problems 6

Relevant Wikipedia articles:

- General solution (https://en.wikipedia.org/wiki/Ordinary_differential_equation#Solutions)