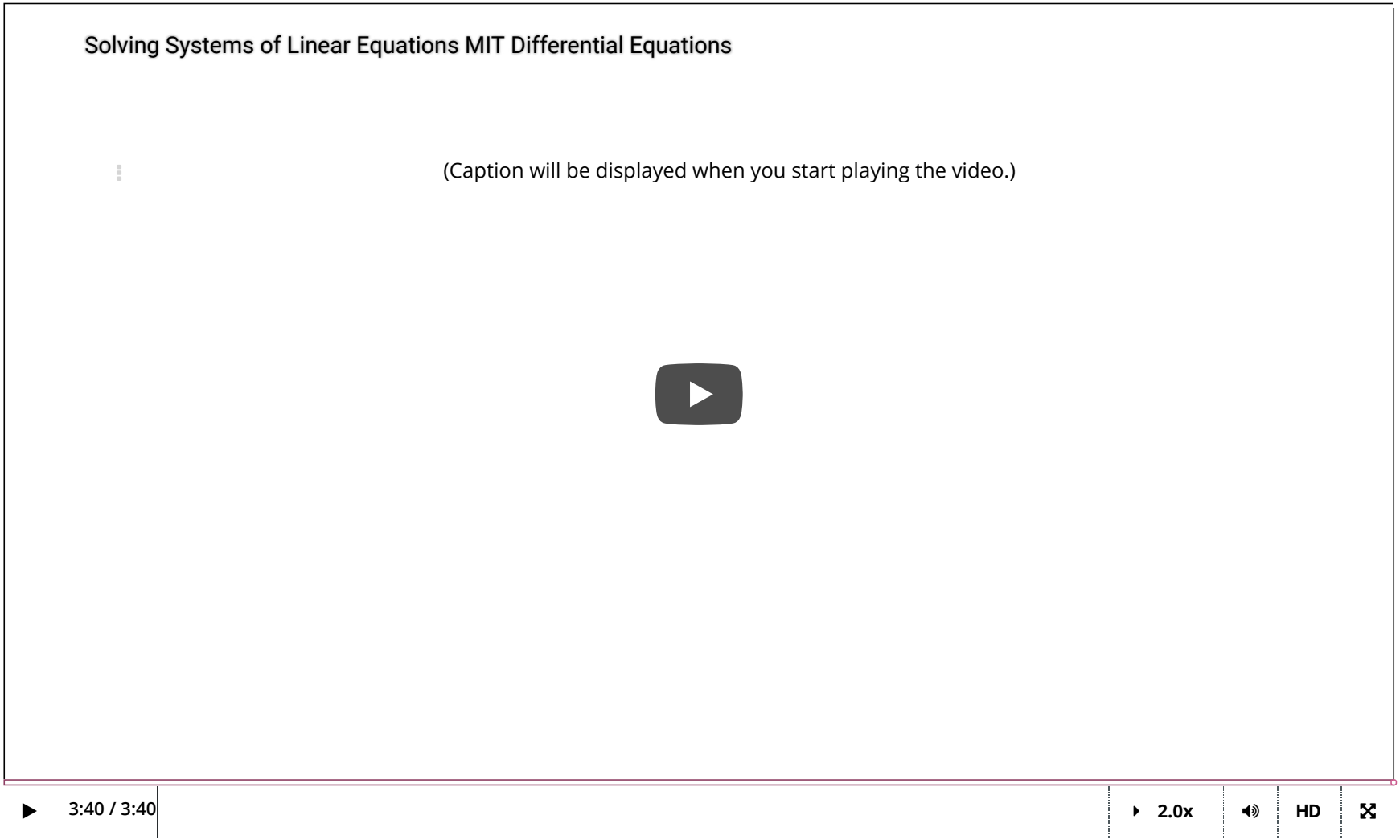
1. MATLAB preparation

The following MATLAB videos are good review and will help you in solving the problems that follow.

Solving linear systems



Solving linear systems (External resource) (1.0 points possible)

Solving linear systems

Given a linear system $\mathbf{Ax} = \mathbf{b}$, where $\det(\mathbf{A}) \neq 0$, we can find the solution $\mathbf{x}$ using the following command:

```
x = A\b;
%This is the recommended way to solve a linear system. It is faster than the previous command
%
```

In this problem we will consider solving a large system of equations written in matrix form $\mathbf{Ax} = \mathbf{b}$. Specifically, generate a random 10×10 matrix $\mathbf{A}$ and a random 10 vector $\mathbf{b}$. Use MATLAB to check that $\mathbf{A}$ is non-singular and then solve the linear system

Script

Save Reset MATLAB Documentation (https://www.mathworks.com/help/)

```
% First generate a random 10x10 matrix A and a random RHS column vector b
% You should use the command X=rand(M,N), where M is the number of rows and N is the number of columns in the array
%
A = rand(10,10);
b = rand(10,1);

% Now solve the linear system using \ to find the solution x
%
x=A\b;
%
% You can check for yourself that this does indeed solve the system by calculating A*x and comparing it to b.
```

Run Script

Assessment: All Tests Passed

Submit

Are A and b created correctly?

Is the solution x correct?

Output

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