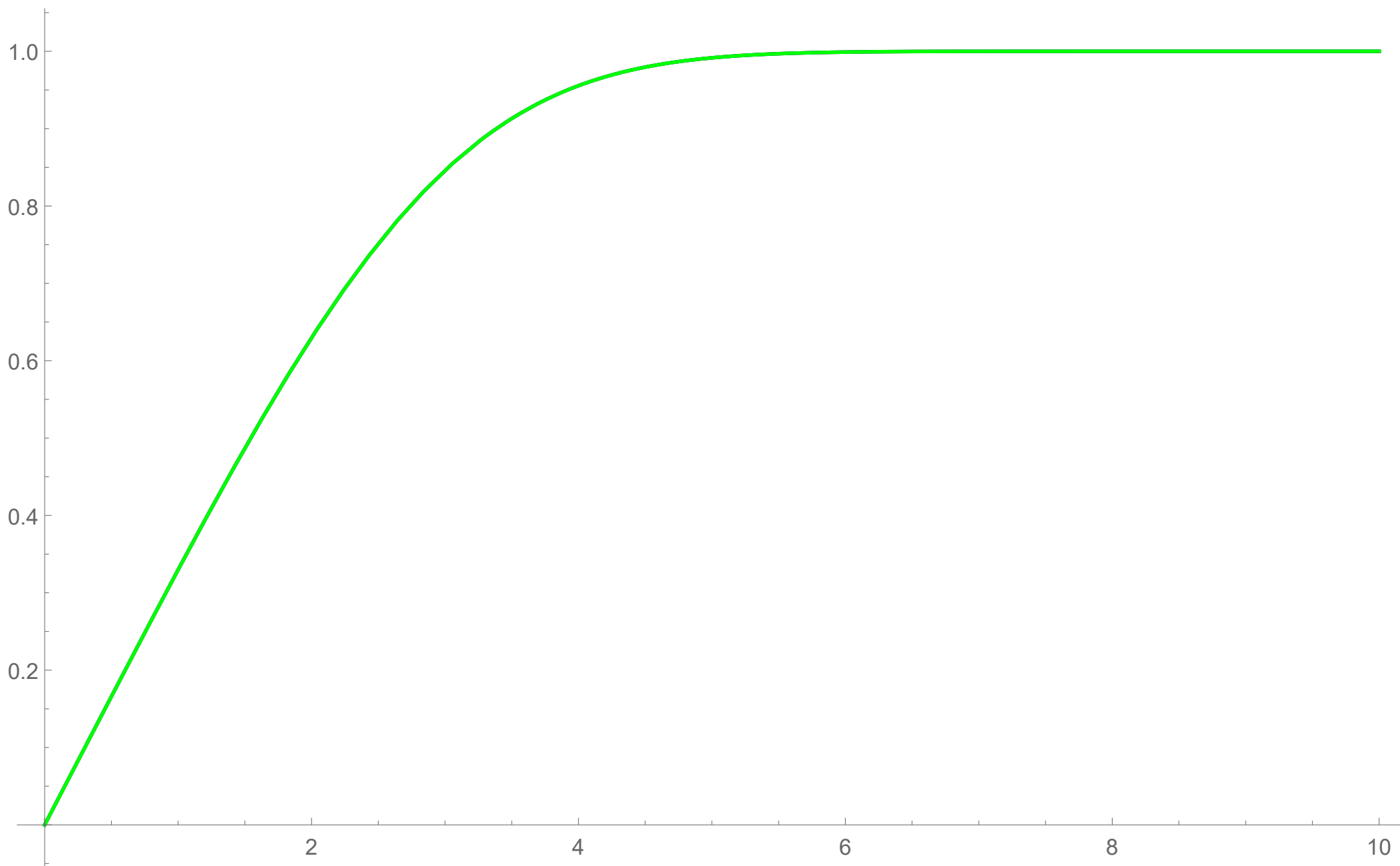


```

In[•]:= clsols =
  Map[
    First[NDSolve[ $\left\{\frac{1}{x} \left(f'''[x] + \frac{1}{2} f[x] \times f''[x]\right) == 0, f[0] == f'[0] == 0, f'[10] == 1\right\}$ , f,
      x, Method → {"Shooting", "StartingInitialConditions" → f''[0] == #}]] &,
    {0.2, 1, 1.5}];
Plot[Evaluate[f'[x] /. clsols], {x, 0, 10}, PlotStyle → {Yellow, Blue, Green}, PlotRange → All]

```



```

In[•]:= Series[Evaluate[f[x] /. clsols], {x, 10, 1}]

```

```

Out[•]= {8.27921 + 1. (x - 10) + 0 [x - 10]^2}

```

```

In[•]:= N[-10 + 8.279212178554964` ]

```

```

Out[•]= -1.72079

```

```

In[•]:= N[Evaluate[Evaluate[f''[x] /. clsols] /. x → 0]]

```

```

Out[•]= {0.332057}

```