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|  | **EE520 HW1** | |
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## Q1.1

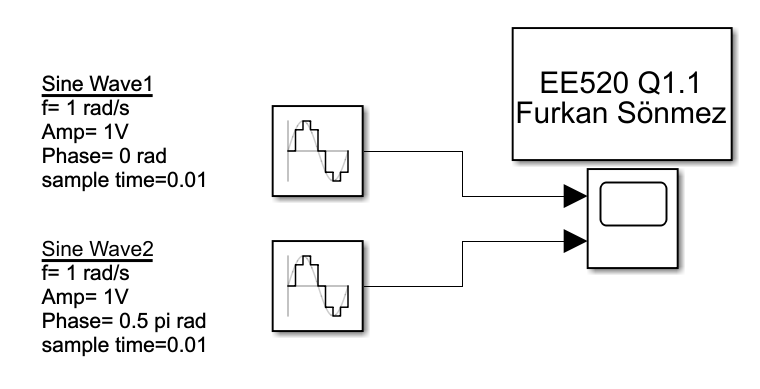


Figure –Simulink Model of 2 Sine Waves which have 0.5 pi phase difference

In this example, I have created two different sine wave simulink blocks as seen in above figure instead of one block which has 2 signal and demux 2 of them to scope.

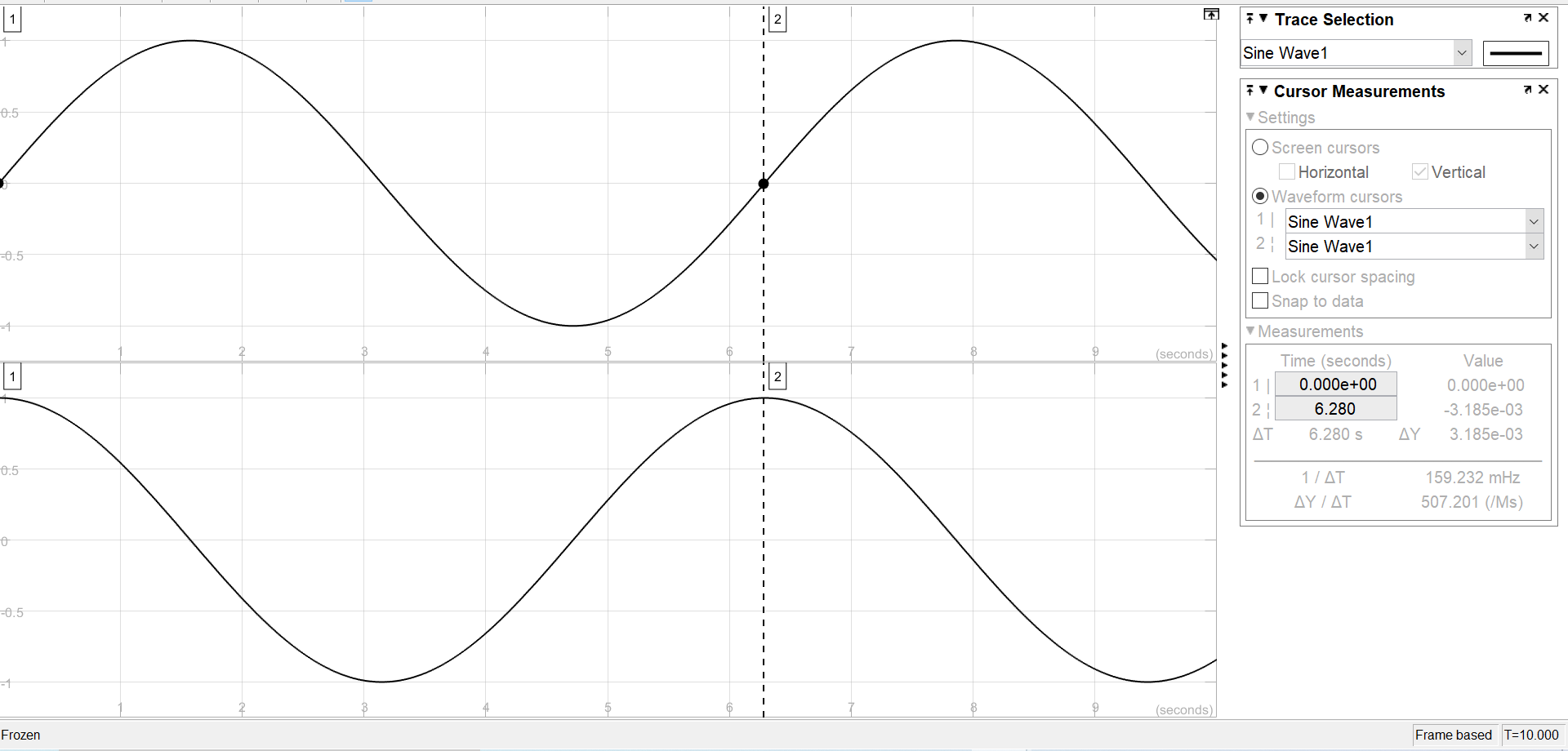


Figure - Scope Measurement for Periode of the first sine wave

## Q1.2

### a.)

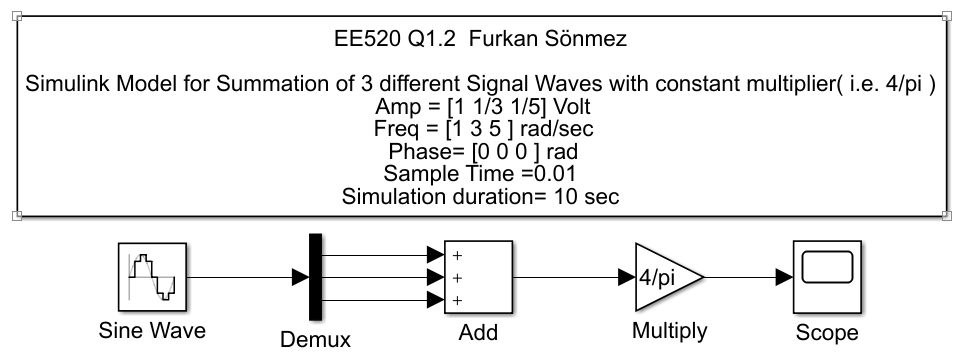


Figure Simulink Model of x(t) for 10 Seconds

### b.)

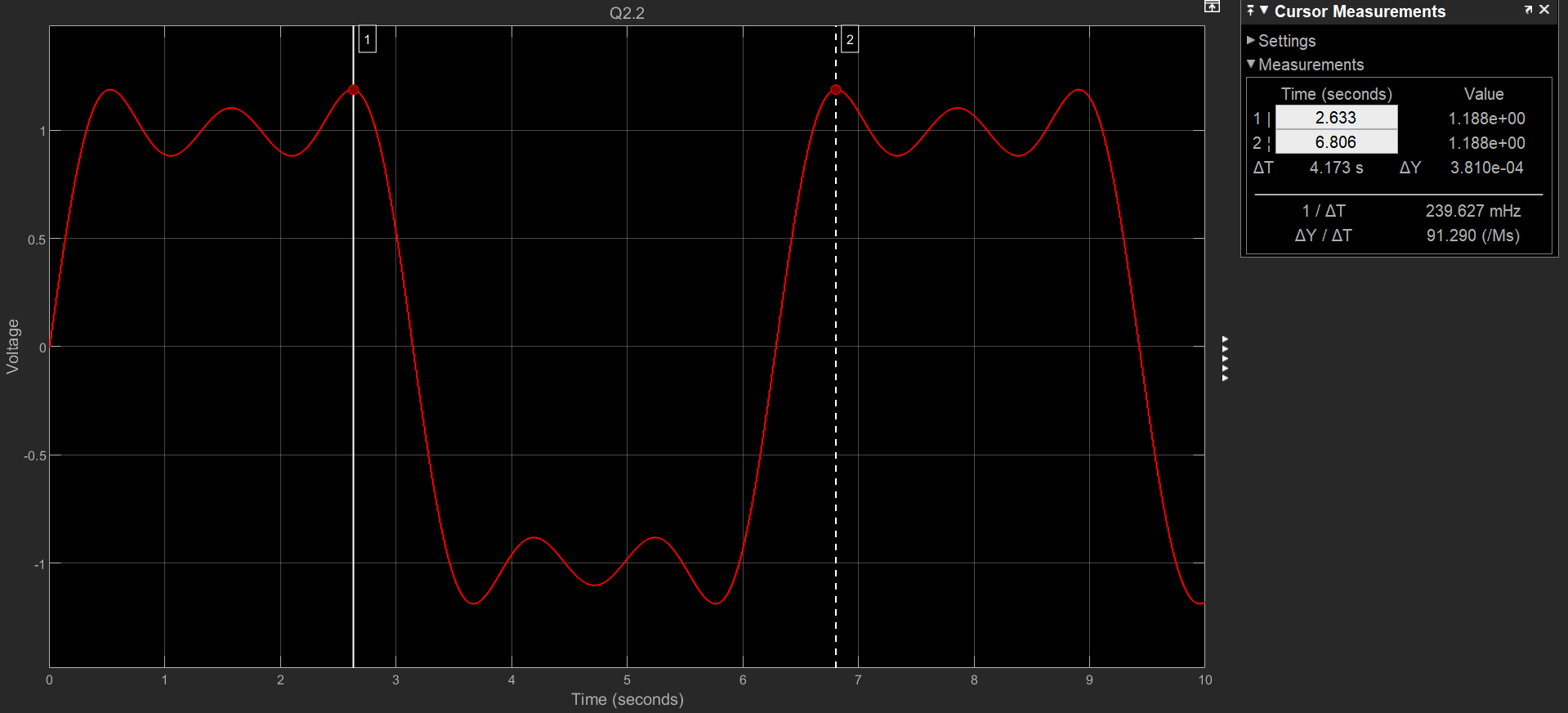


Figure - Scope Analysis of x(t) for 10 Seconds with periode measurements

### c.)

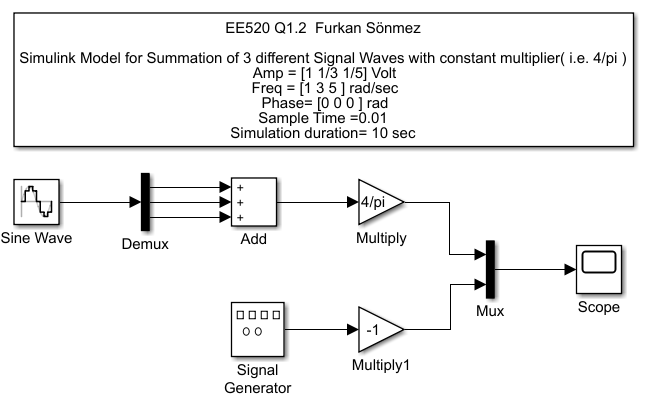


Figure - Simulink Model of x(t) for 10 Seconds with square wave

### d.)

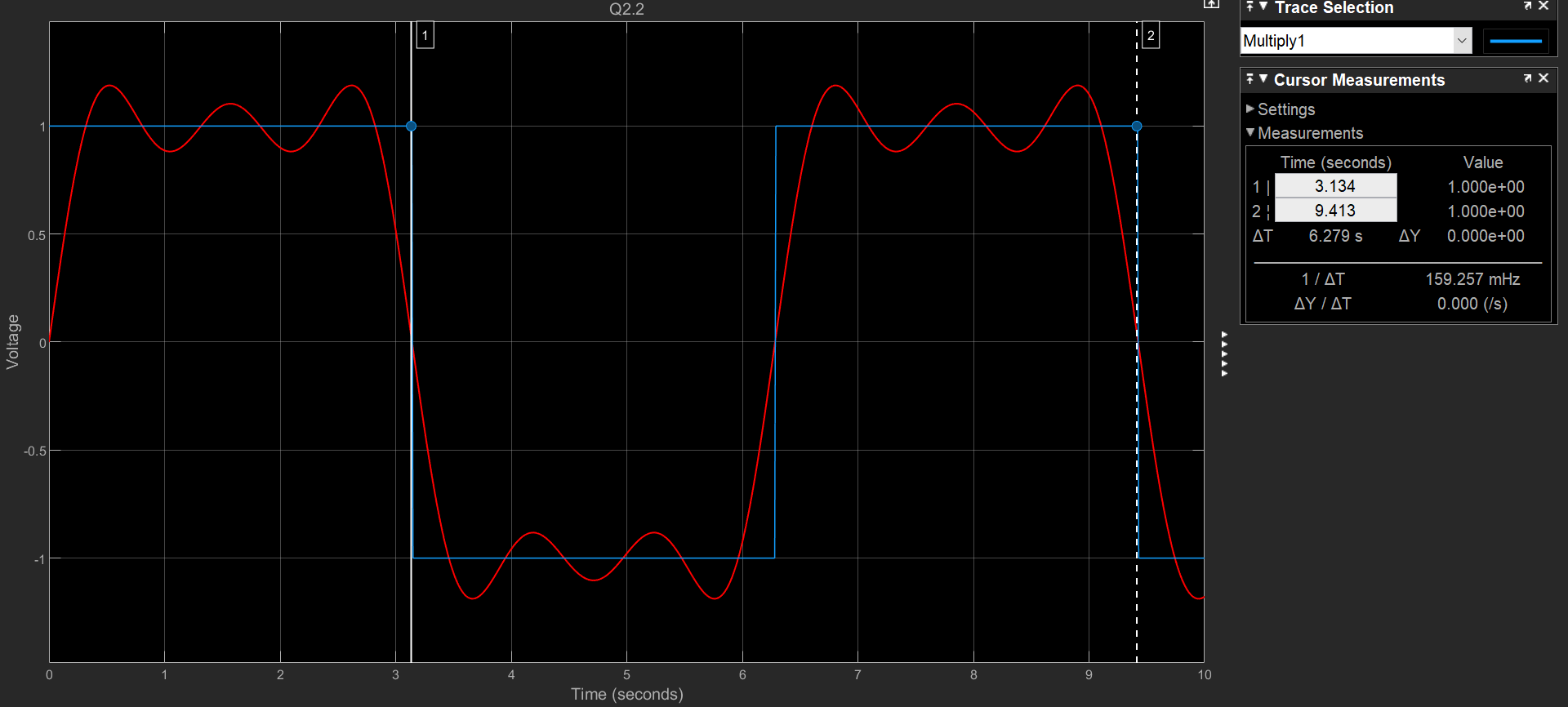


Figure - Scope Analysis of x(t) for 10 Seconds with periode measurements over square wave

## Q1.3

### a.)

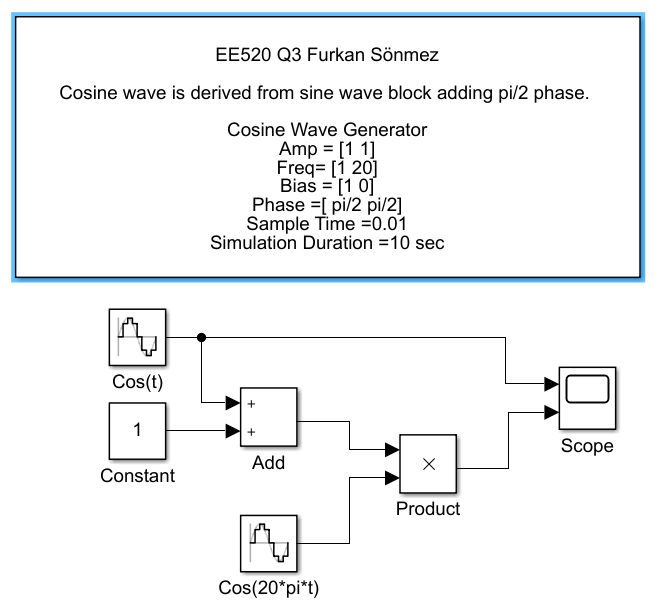


Figure - Simulink Model for (1+cos(t))cos(20t)

### b.)

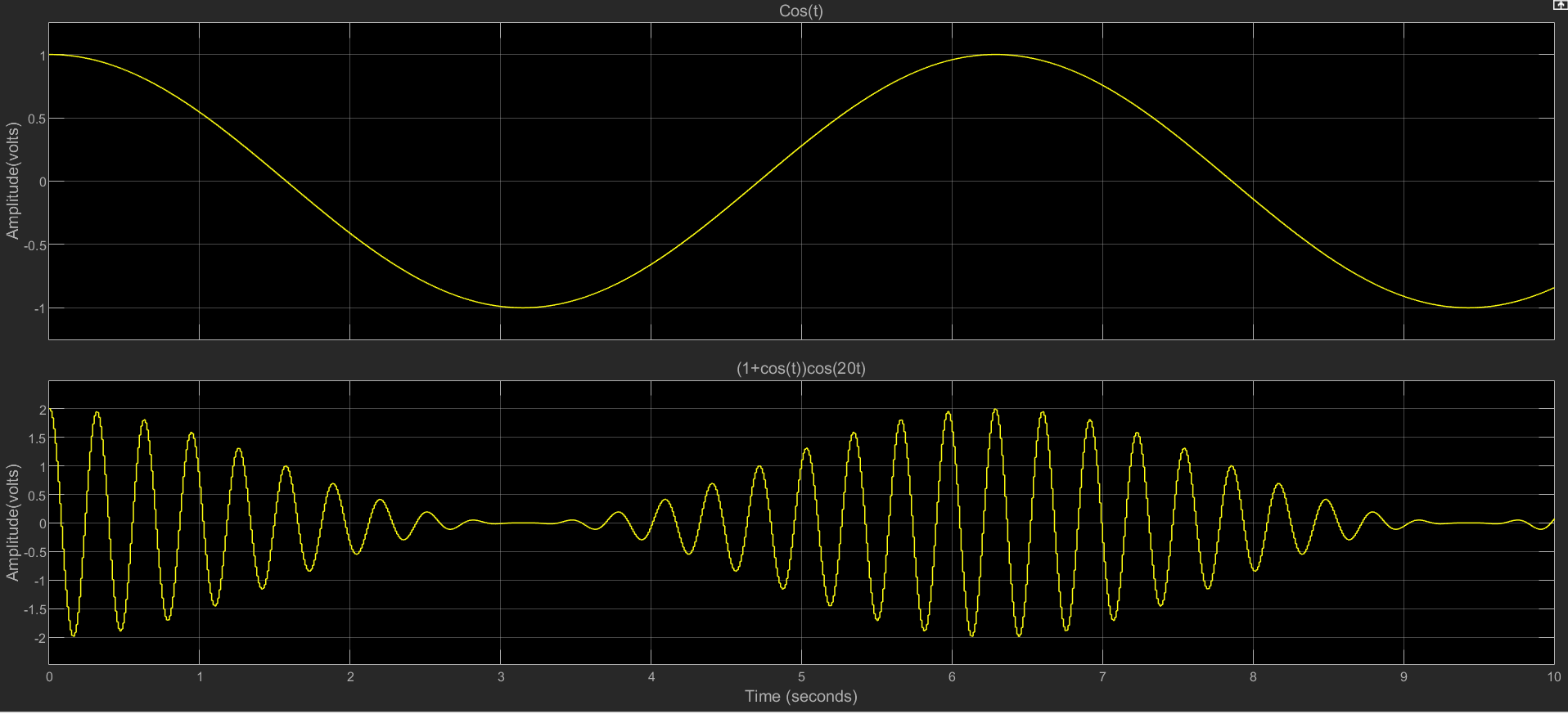


Figure - Scope Analysis of cos(t) and (1+cos(t))cos(20t)

### c.)

Unfortunately, I couldnot find pre-built library for AM Modulation in my Matlab Archive. However, to clarify how the the simulink model is supposed to be according to the example in the book, I made up block which named as “Fake AM Modulator”. Please considering before reading following 2 figures.

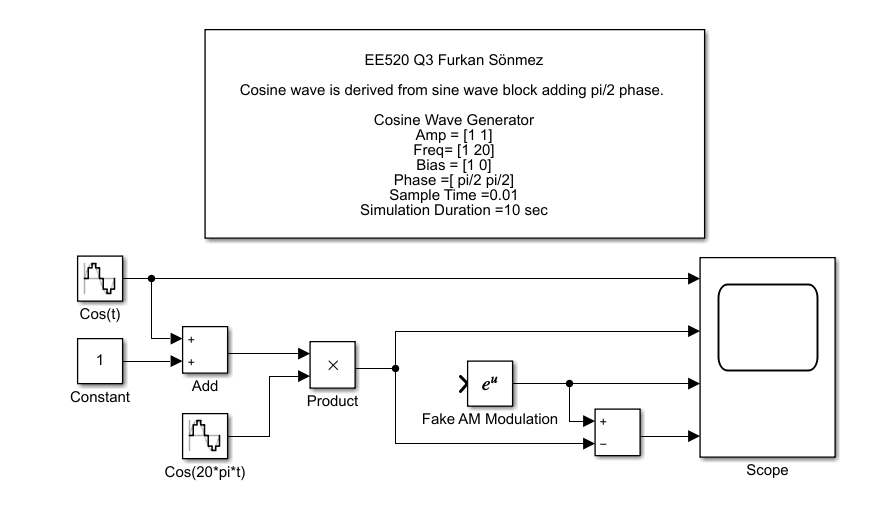


Figure Simulink Model for 4 signals

### d.)

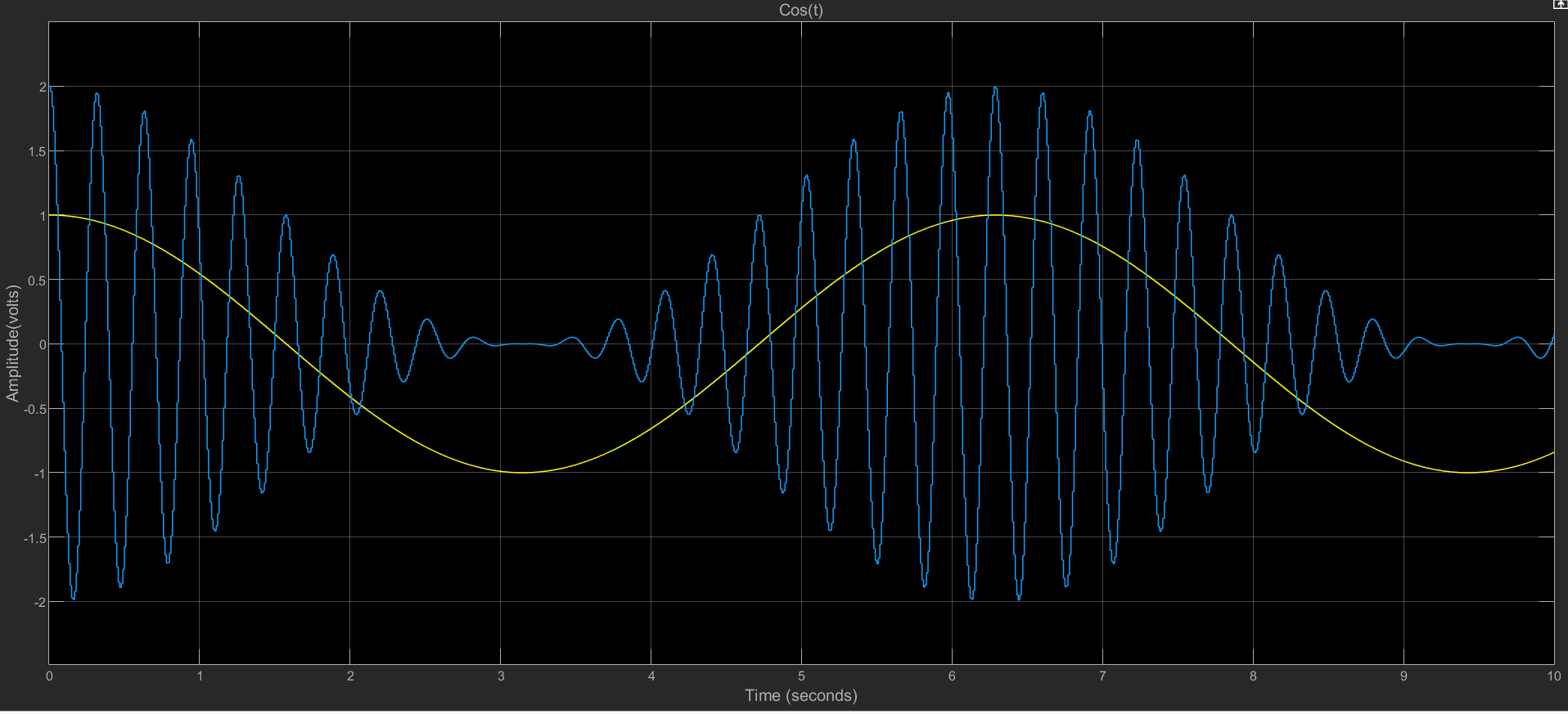


Figure - Scope analysis of Cos(x) and AM modulation (unfortunately pre-build blok output and difference signals are missing above figure)

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