Gravity and Adobe After Effects – simulating a bouncing ball using Math from the Expressions language

You answered these 14 HW questions and watched the first 10 ½ minutes of the Jesse Toula video for an assignment.

Review the video if necessary.

1. What changes or additions would you make the Expression statement so the output shown by the Graph Editor is the 2nd graphic instead of the 1st one? Show **exactly** how the AE Expressions statement should look.
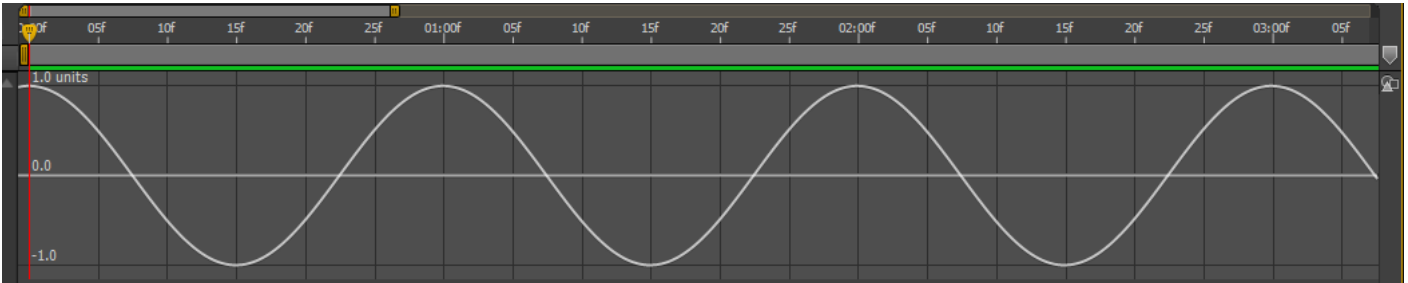

```
Math.cos(time*2*Math.PI)
```
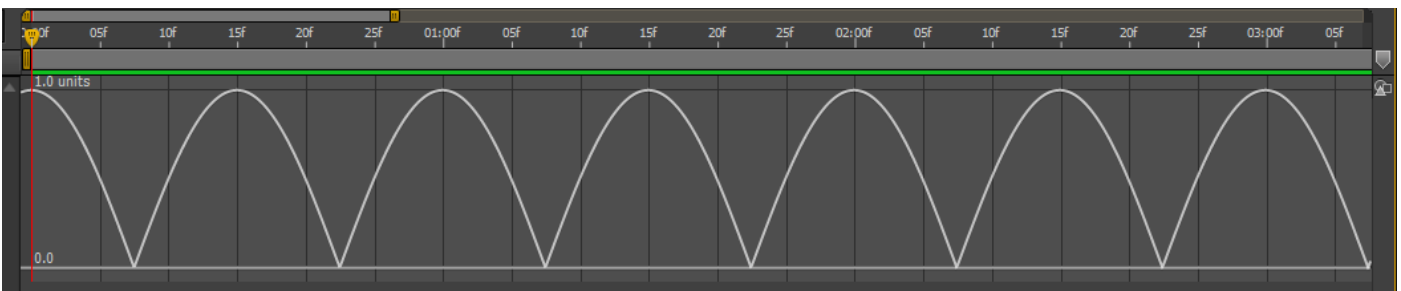

2. Why was the Expression changed from the simpler **Math.cos(time)** to including the multiplication by 2 * Math.PI and becoming **Math.cos(time * 2 * Math.PI)** in the video tutorial on Gravity Animation and the bouncing ball by Jesse Toula? Explain why this was done and/or to what purpose.

Hint #1: How long did it take to get from Math.cos(time) at the top of its wave (1) to repeat and reach the top of its wave again (1 is the peak of the wave as it starts to repeat)?

Hint#2: What is length of time between peaks where Math.cos(time * 2 * Math.PI) repeats it cycle.
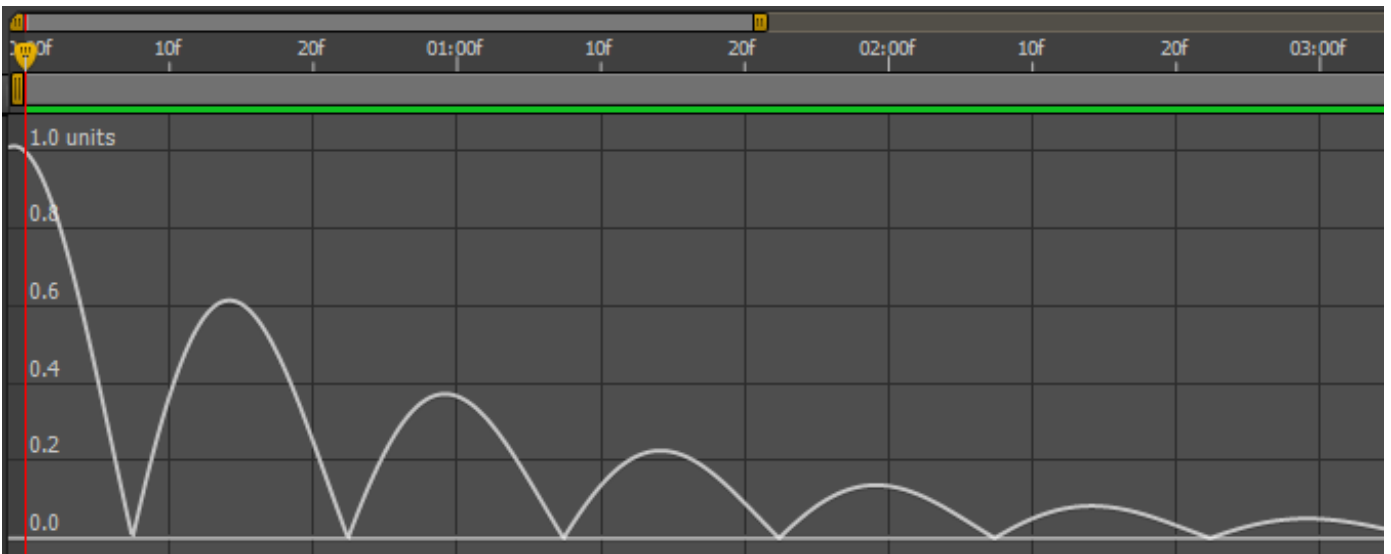
Comment: Do you like to surf and water ski and ride the waves?

3. What is the name of the Expressions language function you need to use to convert the graph from A to B here?

_____

Graph A
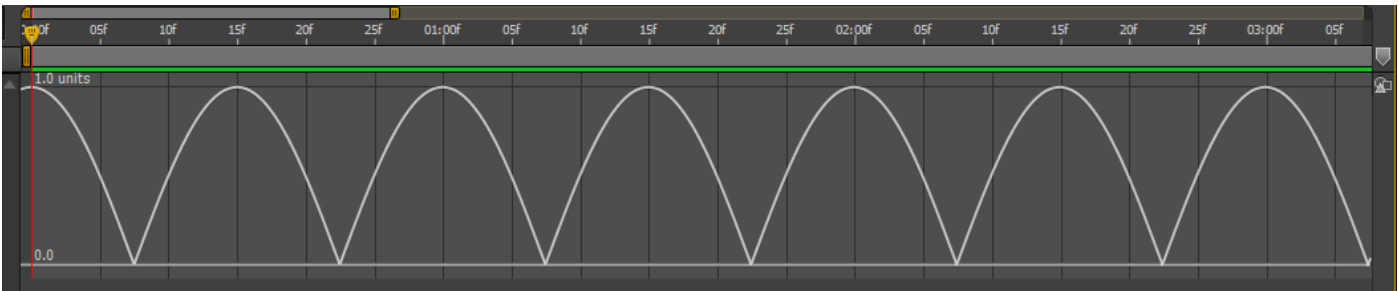
Graph B

4. Suppose that the After Effects artist got the following Graph C instead of Graph B when attempting to develop the Gravity and Bouncing Ball effect for a project. Explain or show what they did wrong and specifically how to correct it. Note: you only need to show the specific problem with the question 6 _portion_ of the entire expression!

Graph C