

## The Game of CALCULUS JEOPARDY

A different way to review A.P. Calculus

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I don't know about you but I have found that there are never enough challenging practice questions for Advanced Placement Calculus. I find that a number of problems in typical review material are of a relatively easy or straightforward nature, like:

- Take the derivative of  $\frac{2x-1}{x^2+2}$  or
- Find  $\int (x^3 - \cos x) dx$
- Find the intervals where  $f(x) = x^3 - 3x + 1$  is increasing

While these problems test basic knowledge needed to do well in the A.P. exam, they are not the “clever” problems that permeate the actual exam – the ones that not only make the student think but make you think as well!

With that in mind, I have put together a large number of review problems that will challenge your best students while not frustrating your weaker ones. It is all packaged in a new game called **CALCULUS JEOPARDY**.

**CALCULUS JEOPARDY** is similar to the famed TV show with you playing the role of Alex Trebek. Like the show, there is a Jeopardy, Double Jeopardy, and Final Jeopardy game. Unlike the show, I have also included a Triple Jeopardy game as well as a Triple Jeopardy BC version.

To give you a sense of **CALCULUS JEOPARDY**, we have made available a sample game. This game contains 3 categories with 15 “answers” as well as solutions. If you are interested in downloading this sample, **click here**.

Below are all the question categories that encompass the entire A.P. curriculum for the **CALCULUS JEOPARDY** game. Each category contains 5 “answers” in increasing difficulty. So there are 120 problems available to you (plus an AB and BC Final Jeopardy question). About 65% are multiple choice and 35% are free response. About 25% allow graphing calculators and 75% do not.

Jeopardy	Double Jeopardy	Triple Jeopardy	Triple Jeopardy (BC)
(\$100 - \$500)	(\$200 - \$1000)	(\$300 - \$1500)	(\$300 - \$1500)
Know Your Limits	Continuity/Differentiability	What's My Average	Parametrics
Derivatives	Related Rates	Derivative Applications	Integration Techniques
Area	Function Analysis	All Things Trig	Infinite Series
In Motion	Integration	Integral Applications	Polar Equations
Definitely Integrated	Volume	It's Approximate	Calculus Applications
Highs and Lows	Differential Equations	Odds and Ends	Taylor Polynomials

One way to play the game is as a class using a computer projector. The “answers” are in PDF format in large type that can be seen all over the classroom. You can choose to have 3 students in competition, teams of students in competition, or have each class member compete. These options are all outlined in the instructions.

Rather than using the game as a review, another way the game can be played is throughout the entire year. Many teachers give a warm-up question when the students first enter the room. Using the **CALCULUS JEOPARDY**

game, you will now have 137 calculus on your computer (including the free sample). You can give questions in any order.

Included in the free download is an Excel “scorecard” that will keep track of how much money your students have amassed throughout the game or the year as well as the percent of questions they got correct. The competition is a neat way to motivate students and keep track of the areas in which they are strong or weak. Using the color coding (green for right, red for wrong gray for not attempted, you can also see the questions with which students have the most problems.

Name	Total \$\$	% Correct	Limits					Derivatives					Area					Motion					
			100	200	300	400	500	100	200	300	400	500	100	200	300	400	500	100	200	300	400	500	
Greer, Tim	900	45%	+	-	0	+	+	-	+	+	+	+	0	0	-	-	-	+	+	-	0	0	
Schneider, Kurt	4,900	90%	+	+	+	+	+	+	+	0	+	+	+	+	+	-	+	+	+	+	+	+	
Sherman, Brittany	-300	30%	+	+	0	0	0	+	-	-	0	0	0	0	+	0	-	0	+	+	-	0	0
Sun, James	2,100	65%	+	+	+	+	0	+	+	+	0	0	+	+	-	+	+	+	+	-	-	0	
Tanzer, Matt	1,100	55%	+	+	+	+	0	+	+	+	-	-	+	+	0	0	+	0	0	-	+	-	
Tsui, Sam	100	25%	+	0	0	0	0	+	-	-	0	0	+	+	0	0	0	+	0	0	0	0	
Tyree, Ted	4,000	75%	+	+	-	0	0	+	+	+	+	+	+	+	0	+	+	+	0	+	+	+	

**Calculus JEOPARDY** operates like the TV game. Each version has a game board with all the category and dollar amounts. When you click on a category and dollar amount, a window will open with the “answer.” You will allow students time to come up with the “question.” You will have the correct “questions” in front of you so you will know whether the student’s question is correct. Once you look at an answer, that answer is now grayed out on the game board to show that you have used that problem. You can use the included scorecard to keep track of the student dollar amounts to determine a leader and then a winner.

Included in the game are instructions and suggestions on how to play.

With the game, you receive the “answers”, questions, and solutions. A typical question is “What is B?” while solutions show how a problem is worked out and include graphs and calculator screens if needed.

Here is a typical answer, question, and solution:

## Derivatives – 400

■ (Calculator allowed) The derivative of the inverse function to  $y = x^3 - 3x - 1$  at  $x = 2$

- A) 0.097
- B) 0.111
- C) 0.201
- D) 1.000
- E) Does not exist

Answer: What is A?

Solution:

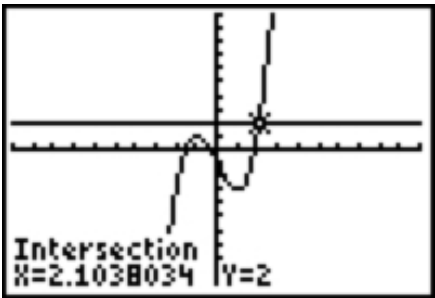
$$y = x^3 - 3x - 1$$

$$\text{Inverse: } x = y^3 - 3y - 1$$

$$1 = 3y^2 \frac{dy}{dx} - 3 \frac{dy}{dx}$$

$$1 = \frac{dy}{dx} (3y^2 - 3)$$

$$\frac{dy}{dx} = \frac{1}{3y^2 - 3}$$

$$\frac{dy}{dx} \Big|_{(x=2.104)} = \frac{1}{3y^2 - 3} = 0.097$$


You may also be interested in playing **CALCULUS JEOPARDY** by giving the students the problems to take home and work on their own. For this you need the version of **CALCULUS JEOPARDY** in smaller type in typical test format. When you order the game, you will automatically receive this smaller type version *free of charge*.

There is only one version of **Calculus JEOPARDY**. In it, you get 91 AB questions and 31 BC questions. As in the actual A.P. exam, students taking BC Calculus also have to answer AB questions, so this game is appropriate for both levels.

**Calculus JEOPARDY** is challenging. It is not simple derivatives and integrals. It will test students whether they understand just about every nuance of the course.

If you are interested in purchasing **CALCULUS Jeopardy**, [click here for details](#).

If you would like to download the free sample containing 3 categories and 15 “answers” (as well as solutions), [click here](#).

## Calculus JEOPARDY GAME – Purchase Options

[Click here to return to Jeopardy description page](#)

When you purchase the **Calculus JEOPARDY** game, you receive the following by download:

- The large screen versions of JEOPARDY, Double JEOPARDY, Triple JEOPARDY, and BC Triple JEOPARDY
- The “engine” that brings up the screens. The game will work on Windows or Macs.
- The Small Type version that students can do at home. The Small Type version uses about 10 pages for all 30 problems within a JEOPARDY version and are in PDF format.
- The “questions” for each dollar amount. These are in PDF format.
- The Solutions for each versions. The solutions for each versions usually take up about 10 pages. They are in PDF format.

- The Scorecard that charts money won and percentage of questions answered correctly using color coding. This is an Excel file.
- Instructions and suggestions on how to play the game.

**Purchase Calculus JEOPARDY Game**

**Only \$24.95 (for download)**

**Purchase Calculus JEOPARDY Game with the Small Type Version and Solutions mailed to you.**

You get everything that is in the standard game with all downloads. But for your convenience, we will ship you the Small Type Version and Solutions printed out.

**Only \$37.95 (plus \$5.00 shipping)**

**Come visit us online to purchase CALCULUS JEOPARDY!**

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