

CALCULATED FORMULA QUESTIONS

About Calculated Formula Questions

A Calculated Formula question contains a formula, the variables of which can be set to change for each user. The variable range is created by specifying a minimum value and a maximum value for each variable. Answer sets are randomly generated. The correct answer can be a specific value or a range of values. Partial credit may be granted for answers falling in a range.

Since this question allows the Instructor to randomize the value of variables in an equation it may be useful when creating math drills to when giving a test when Students are seated close together.

Adding a calculated question to an Assessment is a three step process:

- Create the question and formula.
- Define the values for the variables.
- Confirm the variables and answers.

Create the Question and Formula

The question is the information presented to students. The formula is the mathematical expression used to find the answer. Be sure to enclose variables in square brackets.

Follow these steps to create the question and formula:

1. Open the Test Canvas for an assessment.
2. Select **Calculated Formula** from the question type drop-down list. Click **Go**.
3. Enter the information that will display to Students in the **Question Text** box. Surround any variables with square brackets, for example, [x]. The value for this variable will be populated based on the formula. In the example $[x] + [y] = z$, [x] and [y] will be replaced by values when shown to Students. Students would be asked to define z.

Variables should be composed of alphabets, digits (0-9), periods (.), underscores (_) and hyphens (-). All other occurrences of the opening rectangular brace ("[" character should be preceded by the back-slash ("\") character. Variable names must be unique and cannot be reused.

4. Define the formula used to answer the question in the **Formula** box. For example, $x + y$. Operations are chosen from the buttons across the top of the **Formula** box.
5. Assign a point value for the question. Several other options may appear based on the Creation Settings.
6. Set the **Answer Range**. This defines which submitted answers will be marked correct. If the exact value must be entered, enter 0 and select **Numeric** from the drop-down list. If the answer can vary, enter a value and select **Numeric** or **Percent**. **Numeric** will mark every answer as correct that falls within a range of plus or minus the **Answer Range** from the exact answer. **Percent** will mark every answer as correct that falls within a percentage of plus or minus the **Answer Range** from the exact answer.
7. Select **Yes** or **No** for **Units Required**. If **Yes**, correct answers must include the correct unit of measurement, for example, Seconds or Grams. Enter the correct unit of measurement and choose if the unit of measurement is case sensitive. The answer may still receive partial credit if the unit of measurement is not correct. Enter a percentage in **Unit Points Percentage**. The unit of measurement will account for that percentage of the total credit.

8. Define partial credit for answers that fall outside the correct **Answer Range**. Select **Yes** or **No** for **Allow Partial Credit**. Enter a value for the **Partial Credit Points Percentage**. Now, set the range for partial credit by entering a value and selecting **Numeric** or **Percent** for the **Partial Credit Range**. Answers falling within this range will receive a portion of the total points possible for the question equal to the **Partial Credit Points Percentage**.
9. When finished with the question, click **Continue** to proceed.

Define the Variables

The next page in the three step process defines the variables in the formula. Follow these steps to define the variables.

1. For each variable, set a minimum and a maximum value.
2. For each variable, select a decimal place using the drop-down list that appears in the **Decimal Places** column.
3. Under **Answer Set Options**, select the **Decimal places for answer** from the drop-down list. Users must provide the correct answer to this decimal place.
4. Enter the number of different **Answer Sets**. The Answer Sets will be randomized so that different Students will be presented with a different set of variables.
5. Click Continue to proceed. Or, Click **Back** to return to the previous page or click **Calculate** to reset the variables after making a change.

Confirm the Variables and Answers

The last step in the process displays the Answer Sets in a table. For each set, each variable and the answer are displayed. Make any changes or remove any unwanted answer sets and click **Calculate**.

Below the Answer Sets are the standard options for adding feedback and [metadata](#) to questions.

CALCULATED NUMERIC RESPONSE QUESTIONS

About Calculated Numeric Response Questions

This question resembles a fill-in-the-blank question. The user enters a number to complete a statement. The correct answer can be a specific number or within a range of numbers. Please note that the answer must be numeric, not alphanumeric. For example, in a Geography class the Instructor may ask for the estimated population of a specific city.

Create a Calculated Numeric Response Question

Follow these steps to create a Numeric Response question.

1. Open the Test Canvas for an assessment.
2. Select **Numeric** from the question type drop-down list. Click **Go**.
3. Enter the **Question Text**.
4. Assign a **Point Value**. Complete any advanced features for the question as defined by the Creation Settings of the assessment.
5. Enter the **Correct Answer**. This value must be a number.
6. Enter the **Answer Range**. If the answer must be exact for Students to receive credit, enter 0. Any value that is less than or more than the **Correct Answer** by less than the **Answer Range** value will be marked as correct.
7. Complete the question by adding optional feedback for correct and incorrect answers. Assign the question [metadata](#).
8. Click **Submit** to add the question to the assessment.

FILE RESPONSE QUESTIONS

About File Response Questions

Users upload a file from the local drive or from the Content Collection as the answer to the question. This type of question is graded manually. This question type is a good option if the Instructor would like Students to work on something before a test and submit it with a test, or if the response to the questions is expected to take a long time to read. Submitting the answer this way allows the Instructor to read and grade the question without worrying that the browser will time out.



NOTE: Short Answer and Essay questions may also be used for questions that may require a shorter answer from a Student. These question types must also be manually graded.

Other Question types that allow user input are File Response, Fill in the Blank, and Fill in Multiple Blank.

Create a File Response Question

Follow these steps to create a File Response question.

1. Open the Test Canvas for an assessment.
2. Select **File Response** from the question type drop-down list. Click **Go**.
3. Enter the **Question Text**.
4. Assign a **Point Value**. Complete any advanced features for the question as defined by the Creation Settings of the assessment.
5. Assign the question any [metadata](#).
6. Click **Submit** to add the question to the assessment.

HOT SPOT QUESTIONS

About Hot Spot Questions

Users indicate the answer by marking a specific point on an image. A range of pixel coordinates is used to define the correct answer. Hot Spot refers to the area of an image that, when selected, yields a correct answer. The following are some examples of uses for this type of question:

- Anatomy - to locate different parts of the body
- Geography - to locate areas on a map
- Foreign Language - to select different articles of clothing

Create a Hot Spot Question

Follow these steps to create a Hot Spot question.

1. Open the Test Canvas for an assessment.
2. Select **Hot Spot** from the question type drop-down list. Click **Go**.
3. Enter the **Question Text**.
4. Assign a **Point Value**. Complete any advanced features for the question as defined by the Creation Settings of the assessment.
5. Enter the path to the file in the **Attach Local File** field under the **Upload Image** heading. Make sure to upload the image in the correct field. Remember that **Creation Settings** allows uploading a file as part of the **Question Text**.
6. Click **Next**. The uploaded image will appear.
7. Click the mouse and drag it to create a rectangle over the correct answer. When Students select a point within the rectangle they will receive credit for a correct answer. The area of the hot spot is defined by pixels. Click **Clear** to remove the hot spot and select a new hot spot.
8. Complete the question by adding optional feedback for correct and incorrect answers. Assign the question a category or other [metadata](#).
9. Click **Submit** to add the question to the assessment.

FILL IN MULTIPLE BLANKS QUESTIONS

About Fill In Multiple Blanks Questions

This question type builds on fill-in-the-blank questions with multiple fill in the blank responses that can be inserted into a sentence or paragraph. Separate sets of answers are defined for each blank. This question type may be used if there are multiple variables, such as "What color is the Italian flag?" This question type is also useful in foreign language classes. In this case the identifier and adjective may be left blank in a sentence, so as not to give away the gender of an object.

Create a Multiple Fill-in-the-Blanks Question

Follow these steps to create a Fill In Multiple Blanks question.

1. Open the Test Canvas for an assessment.
2. Select **Fill In Multiple Blanks** from the question type drop-down list. Click **Go**.
3. Enter the Question Text. Enter each blank as a variable surrounded by square brackets. For example, William [blank_1] wrote Romeo and [blank_2].

Variables should be composed of alphabets, digits (0-9), periods (.), underscores (_) and hyphens (-). All other occurrences of the opening rectangular brace ("[" character should be preceded by the back-slash ("\") character. Variable names must be unique and cannot be reused.

4. Assign a **Point Value**. Complete any advanced features for the question as defined by the Creation Settings of the assessment.
5. Click **Next**.
6. A list of variables found in the question will appear. Enter one or more correct answers for each variable.
7. Complete the question by adding optional feedback for correct and incorrect answers. Assign the question a category or other [metadata](#).
8. Click **Submit** to add the question to the assessment.

JUMBLLED SENTENCE QUESTIONS

About Jumbled Sentence Questions

Users are shown a sentence with a few parts of the sentence as variables. The user selects the proper answer for each variable from drop-down lists to assemble the sentence. Only one set of answers is used for all of the drop-down lists. This type of question may be useful when teaching about proper grammatical order in a sentence, such as the location of a noun, verb, or adjective,

Create a Jumbled Sentence Question

Follow these steps to create a Jumbled Sentence question.

1. Open the Test Canvas for an assessment.
2. Select **Jumbled Sentence** from the question type drop-down list. Click **Go**.
3. Enter the Question Text. Enter each blank as a variable surrounded by square brackets.

Variables should be composed of alphabets, digits (0-9), periods (.), underscores (_) and hyphens (-). All other occurrences of the opening rectangular brace ("[" character should be preceded by the back-slash ("\") character. Variable names must be unique and cannot be reused.

4. Assign a **Point Value**.
5. Select the **Number of Answers** and enter a value for each. These values will appear in a drop-down list for each variable when users view the question. Enter the answers in the order they should display to Students in the drop-down.
6. Click **Next**.
7. The question will appear with the drop-down lists in place of the variables. Select the correct answers.
8. Complete the question by adding optional feedback for correct and incorrect answers. Assign the question a category or other [metadata](#).
9. Click **Submit** to add the question to the assessment.

OPINION SCALE/LIKERT QUESTIONS

About Opinion Scale/Likert Questions

Question type based on a rating scale designed to measure attitudes or reactions. This type of question is popular to use in surveys in order to get a comparable scale of opinion. Users indicate the multiple choice answer that represents their attitude or reaction. When the instructor creates an opinion scale question, six answer fields are pre-populated with the following answers:

- Strongly Agree
- Agree
- Neither Agree nor Disagree
- Disagree
- Strongly Disagree
- Not Applicable

Create an Opinion Scale/Likert Question

Follow these steps to create an Opinion Scale/Likert question.

1. Open the Test Canvas for an assessment.
2. Select **Opinion Scale** from the question type drop-down list. Click **Go**.
3. Enter the Question Text.
4. Assign a **Point Value**.
5. Determine how the answers will be displayed by selecting **Answer Numbering** and **Answer Orientation**.
6. Check **Allow Partial Credit** and options will appear under each answer to assign a percentage of points possible.
7. The Answer fields are pre-populated with values on a Likert scale. Select a correct answer and change any of the answer values.
8. Complete the question by adding optional feedback for correct and incorrect answers. Assign question [metadata](#).
9. Click **Submit** to add the question to the assessment.

SHORT ANSWER QUESTIONS

About Short Answer Questions

Short Answer questions are similar to essay questions. The length of the answer can be limited to a specified number of rows in the text box. Essay questions, Short Answer questions must be graded manually.

The number of rows is meant as a guideline when entering an answer, it does not impose an absolute limit on answer length.

Create a Short Answer Question

Follow these steps to create a short response question.

1. Open the Test Canvas for an assessment.
2. Select **Short Answer** from the question type drop-down list. Click **Go**.
3. Enter the Question Text.
4. Assign a **Point Value**.
5. Select a number of rows for the answer.
6. Enter an example of a correct answer to assist Graders.
7. Complete the question by adding optional feedback for correct and incorrect answers. Assign question [metadata](#).
8. Click **Submit** to add the question to the assessment.

EITHER/OR QUESTIONS

About Either/Or Questions

Users are presented with a statement and asked to respond using a selection of pre-defined two-choice answers, such as:

- Yes/No
- Agree/Disagree
- Right/Wrong

This question type is very useful in Surveys to gauge user's opinions. It is a slight variation on the True/False question type, except more descriptive and meaningful answers may be used.

Create an Either/Or Question

Follow these steps to create an Either/Or question.

1. Open the Test Canvas for an assessment.
2. Select **Either/Or** from the question type drop-down list. Click **Go**.
3. Enter the Question Text.
4. Assign a **Point Value**.
5. Click the **Correct Answer** and select a positive value and a negative value from the drop-down lists.
6. Complete the question by adding optional feedback for correct and incorrect answers. Assign the question [metadata](#).
7. Click **Submit** to add the question to the assessment.

QUIZ BOWL QUESTIONS

About Quiz Bowl Questions

Quiz Bowl questions are a way to add fun and creativity to tests, such as self assessments or in-class contests. The user is shown the answer and responds by entering the correct question into a text box. An answer must include a phrase and a question word, such as who, what, or where, to be marked as correct. For example, the question may be "The person who invented the cotton gin", with the answer being "Who is Eli Whitney?" Partial credit may be given if the question word is not included in the answer.

Create a Quiz Bowl Question

Follow these steps to create a Quiz Bowl question.

1. Open the Test Canvas for an assessment.
2. Select **Quiz Bowl** from the question type drop-down list. Click **Go**.
3. Enter the Question Text.
4. Assign a **Point Value**.
5. Click the **Allow Partial Credit** and enter a percentage of credit. This is the amount of credit that will be given to answers that include the correct phrase but do not include the correct interrogative word.
6. Select the **Number of Interrogative Words**. Enter each acceptable interrogative word in the fields below. One of these words must appear in the response for the Student to receive full credit.
7. Select the **Number of Answer Phrases**. Enter each acceptable phrase into the fields below. One of these phrases must appear in the response for the Student to receive any credit.
8. Complete the question by adding optional feedback for correct and incorrect answers. Assign question [metadata](#).
9. Click **Submit** to add the question to the assessment.