

CALCULATED FORMULA

By default, Calculated Formula is selected as the question type.

Click **Go**

The screenshot shows the Blackboard Test Canvas interface. At the top, there are navigation links for 'My Institution', 'Course Catalog', and 'System Admin'. Below this, the breadcrumb trail reads 'BLACKBOARD TEST SITE > CONTROL PANEL > TEST MANAGER > TEST CANVAS'. The main heading is 'Test Canvas'. A paragraph of instructions follows: 'Add, modify, and remove questions. Select a question type from the Add Question drop-down list and click Go to add questions. Use Creation Settings to establish which default options, such as feedback and images, are available for question creation.' Below the text is a form with an 'Add' dropdown menu set to 'Calculated Formula', a 'GO' button, and a 'Creation Settings' link. A table below the form lists the question type details:

Name	Calculated Formula
Description	Identify the correct answer from several choices after a formula is presented with variables randomly generated within a set range.
Instructions	

 An 'OK' button is located at the bottom right of the form area.

Type the question in the Question Text textbox.

Scroll down to continue.

The screenshot shows the 'Add/Modify Calculated Formula Question' interface. The breadcrumb trail is 'BLACKBOARD TEST SITE > CONTROL PANEL > TEST MANAGER > ADD/MODIFY CALCULATED FORMULA QUESTION'. The main heading is 'Add/Modify Calculated Formula Question'. A paragraph of instructions follows: 'Add question text that includes variables in square brackets [x] corresponding to variables in the formula that will be used to calculate the answer to this question. Answers are not part of the formula because answer sets are automatically calculated. Variables must consist of letters, but "pi" and "e" are reserved and cannot be used as variables. Click Next after completing the fields on this page to calculate answer sets and provide response feedback.' Below the text is a 'Question' section with a 'Question Text' label and a rich text editor. The editor contains the text:

What is the value of x in the following equation?

$$x=[m]+2*[n]$$
 Below the editor is an 'Answer Formula' field.

Type the answer to the question in the answer formula box.

Set the Point Value

The screenshot shows the 'Answer Formula' field with the mathematical expression $m + 2n$. Below it, the 'Point Value' is set to 10. The 'Options' section is partially visible, showing the 'Answer Range +/-' field set to 0 and a 'Numeric' dropdown menu.

Set desired options for:
 Answer Range
 Allow Partial Credit
 Partial Credit Range +/-
 Partial Credit Points
 Percentage
 Units Required (NOTE:
 Misspelled responses will
 be scored as incorrect.)

The Answer range +/- option is available for numeric questions and allows you to establish a range (numerically or by percentage) for right answers.

NOTE: If the answer must be exact, enter 0 (zero).

The screenshot shows the 'Options' section fully expanded. The 'Answer Range +/-' field is set to 0. Below it, the 'Allow Partial Credit' and 'Units Required' checkboxes are unchecked. The 'Submit Information' section is visible at the bottom, with instructions to click 'Next' to continue building the question or 'Cancel' to quit.

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The Allow Partial Credit option allows you to give some points for answers that are close but not quite right. When you enable the Allow Partial Credit check box, the page reloads to display a Partial Credit Range +/- field.

To allow Partial Credit to be given, click the checkbox.

The screenshot shows the 'System Admin' interface for a 'Calculated Formula' question. The 'Point Value' is set to 10. In the 'Options' section, the 'Allow Partial Credit' checkbox is unchecked. Below it, the 'Units Required' checkbox is also unchecked. The 'Submit Information' section contains instructions to click 'Next' to continue building the question or 'Cancel' to quit.

You can now indicate how close the learner's answer must be to receive partial credit. You can designate the range by entering a numeric value or a percentage.

For example, if you enter 5 in the field and choose percent from the drop-down menu, any answer that falls within 5 percent (plus or minus) of the right answer receives partial credit.

The screenshot shows the 'System Admin' interface for a 'Calculated Formula' question. The 'Point Value' is set to 10. In the 'Options' section, the 'Allow Partial Credit' checkbox is checked. Below it, the 'Partial Credit Range +/-' is set to 0, and the dropdown menu is set to 'Percent'. The 'Units Required' checkbox is unchecked. The 'Submit Information' section contains instructions to click 'Next' to continue building the question or 'Cancel' to quit.

In this step, set minimum and maximum values for each variable.

We will leave the minimum value set at 0 and change the maximum for both variables to 25

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BLACKBOARD TEST SITE > CONTROL PANEL > TEST MANAGER > ADD/MODIFY CALCULATED FORMULA QUESTION

✓ Add/Modify Calculated Formula Question

Set the options that will be used to generate answer sets for this question. Click **Calculate** after completing the fields on this page to generate the answer sets or to recalculate existing answer sets.

1 Define Variables

	Variable Name	Minimum Value	Maximum Value	Decimal Places
1.	m	0	100	0
2.	n	0	100	0

2 Answer Set Options

Decimal Places for Answer: 0

Number of Answer Sets: 10

3 Submit Information

Click **Calculate** to generate the answer sets or to regenerate existing answer sets. Click **Back** to return to the previous page. Click **Cancel** to quit.

Applet formula started

Indicate if the variables will include Decimal Places.

Answer Set options can be modified or default settings can be accepted.

Click **Calculate** to continue.

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✓ Add/Modify Calculated Formula Question

Set the options that will be used to generate answer sets for this question. Click **Calculate** after completing the fields on this page to generate the answer sets or to recalculate existing answer sets.

1 Define Variables

	Variable Name	Minimum Value	Maximum Value	Decimal Places
1.	m	0	25	0
2.	n	0	100	0

2 Answer Set Options

Decimal Places for Answer: 0

Number of Answer Sets: 10

3 Submit Information

Click **Calculate** to generate the answer sets or to regenerate existing answer sets. Click **Back** to return to the previous page. Click **Cancel** to quit.

Applet formula started

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These are the Answer Sets generated by Bb. Each can be modified or removed.

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BLACKBOARD TEST SITE > CONTROL PANEL > TEST MANAGER > ADD/MODIFY CALCULATED FORMULA QUESTION

Add/Modify Calculated Formula Question

Values for the variables can be modified. If the values have been modified, click **Calculate** to recalculate the answer sets. Answer sets can be removed. To modify the options for generating the answer sets, click **Back** to go to the previous page and click **Calculate** on the previous page to regenerate the answer sets.

1 Modify Answer Sets

	m	n	Answer
1.	14	5	Remove
2.	16	23	Remove
3.	14	23	Remove
4.	12	15	Remove
5.	21	23	Remove
6.	8	4	Remove
7.	12	13	Remove
8.	15	6	Remove
9.	12	17	Remove
10.	15	12	Remove

Applet hidden_webeq_applet loaded

Click **Submit** to complete the process

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Incorrect Response Feedback

Normal 3 Times New Roman B I U S x₂ x³

Path: body

3 Submit Information

Click **Submit** to save this Calculated Formula question. Click **Back** to return to the previous page. Click **Cancel** to quit.

Back Cancel Submit

Applet hidden_webeq_applet started

The **Calculated Formula** question is complete and now part of the exam.

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BLACKBOARD TEST SITE > CONTROL PANEL > TEST QUESTIONS > PREVIEW ASSESSMENT: CALCULATED FORMULA

Preview Assessment: Calculated Formula

Name Calculated Formula

Instructions

Multiple Attempts Not allowed. This Test can only be taken once.

Force Completion This Test can be saved and resumed later.

Question Completion Status:

Question 1 10 points Save

What is the value of x in the following equation?

$x=15+2*6$

Save Submit

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This is how a **Calculated Formula** question appears to students.

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BLACKBOARD TEST SITE > CONTROL PANEL > TEST QUESTIONS > PREVIEW ASSESSMENT: CALCULATED FORMULA

Preview Assessment: Calculated Formula

Name Calculated Formula

Instructions

Multiple Attempts Not allowed. This Test can only be taken once.

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Question Completion Status:

Question 1 10 points Save

What is the value of x in the following equation?

$x=15+2*6$

Save Submit

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