

## Quick Start Instructions on using MyMathLab with the JAWS Screen Reader

*To work on assignments in MyMathLab with JAWS, follow these steps to turn on the Accessibility Setting:*

1. Open JAWS if it is not already running. It is important that JAWS is running prior to doing work so that JAWS can recognize the MyMathLab player.
2. Login to your MyMathLab account, and open the MyMathLab player. You can do this by opening a question in any assignment (homework, test, quiz).
3. Set the accessibility setting in the MyMathLab player:
  - a. Open the Settings menu and select Accessibility
  - b. In the popup window, select the "On" radio button and click OK
4. This setting is active for the current browser session. So the next time you work on your assignment, you will need to do these steps.

You can use JAWS to enter answers to the following types of questions:

- Multiple-choice — you choose the correct answer or answers from several possible answers.
- Free-response — you type your answer into a field using command-line language.
- Fill-in-the-blank — you select the answer using your arrow keys.

You can cut, copy, and paste using keyboard shortcuts; you also can use the command-line language to enter special characters and symbols. (Refer to the section below, "Using Command-Line Language with MyMathLab and JAWS")

Note, with the current version of MyMathLab, the following types of questions are not screen-readable by JAWS:

- Questions that require creating a graph, plotting on a number line, or selected questions with a visual display such as a graph or table.
- Questions that include embedded controls.

The MyMathLab (HTML5) player supports JAWS 15, 16 and 17.

If you have questions, or require assistance, please email [mymathlab@pearson.com](mailto:mymathlab@pearson.com).

## Navigation Tips in MyMathLab and JAWS

You can use the standard JAWS navigation menus and keyboard shortcuts with MyMathLab. There are many different ways to navigate using JAWS. Here are some examples of how a student could access a test and homework assignment using JAWS.

### ***Doing Homework in MyMathLab using JAWS***

1. Open JAWS if it is not already running (It is important that JAWS is running prior to doing work so that JAWS can recognize the MyMathLab player).
2. Select your homework assignment.
3. Select the Question you wish to work on.
4. Turn on the Accessibility setting in the question player if you have not already done so.
5. Use CTRL+HOME to start reading from the top of the question. You can also get a quick idea of elements such as regions, links, and interactive controls by using the JAWS keystrokes.
6. Use down arrow to read the question.
7. You can also navigate to different parts of the question by using the JAWS keystroke for aria regions, R. Or you can use the TAB key to navigate to different content areas and elements in the question.
8. If the question contains a multiple choice then use INSERT+F5 to select the answer from the JAWS forms field list. You can also select your answer using the up/down keys.
9. If the question is a free response question and contains an edit field, then once in the edit field enter your answer using the keyboard and command line language.
10. To select the next question, use INSERT+F5 to open the Forms Field list and select the specific question or the Next Question. You can also TAB to the next question button at the top or bottom of the question player.
11. To Save your homework assignment, use INSERT+F5 to open the Forms Field list and select Save. You can also Save by using your TAB key to select the Save button.

### ***Taking a Test in MyMathLab using JAWS***

1. Open JAWS if it is not already running (It is important that JAWS is running prior to doing an activity so that JAWS can recognize the MyMathLab player).
2. Select the test you want to take.
3. Select Are you ready to start.
4. Turn on the Accessibility setting in the question player if you have not already done so.
5. Use CTRL+HOME to start reading from the top of the question. You can also get a quick idea of elements such as regions, links, and interactive controls by using the JAWS keystrokes.
6. Use the down arrow to read the question.
7. You can also navigate to different parts of the question by using the JAWS keystroke for aria regions, R. Or you can use the TAB key to navigate to different content areas and elements in the question.
8. If the question contains a multiple choice then use INSERT+F5 to select the answer from the JAWS forms field list. You can also select your answer using the up/down keys.
9. If the question is a free response question and contains an edit field, then once in the edit field enter your answer using the keyboard and command line language.
12. To select the next question, use INSERT+F5 to open the Forms Field list and select the specific question or the Next Question. You can also TAB to the next question button at the top or bottom of the question player.
10. To submit the test, use INSERT+F5 to open the Forms Field list and select Submit. You can also submit by using your TAB key to select the Submit button.

## Using Command-Line Language with MyMathLab Free Response Questions and JAWS

<b>Copy and paste shortcuts</b>	
<b>To do this...</b>	<b>Enter this shortcut...</b>
To copy text:	Select text and type Ctrl-c
To cut text:	Select text and type Ctrl-x
To paste text:	Place cursor and type Ctrl-v
To undo:	Type Ctrl-z
To redo:	Type Ctrl-y
<b>Basic math operators</b>	
<b>To type this operator...</b>	<b>Enter this...</b>
Plus	+
Minus	-
Multiplication dot	*
Multiplication dot	&star;
Times (x)	&times;
Division (÷)	&div;
Less than (<)	<
Less than or equal to (≤)	< =
Greater than (>)	>
Greater than or equal to (≥)	> =
Equal to (=)	=
Not equal to (≠)	<> Or &ne;



<b>Math symbols and expressions</b>	
<b>To type this expression or symbol...</b>	<b>Enter this...</b>
Fraction	numerator-part / denominator-part
Mixed number	whole-number-part <space> numerator-part / denominator-part
Superscript	^
Subscript	_
Absolute value	number
Square root	SQRT(number)
Nth root	RTX(root degree,number)
Vertical bar (pipe)	
Empty set	&empty;
Union	&cup;
Intersection	&cap;
Belongs to (element of)	&in;
Does not belong to (not element of)	&notin;
Subset of	&subset;
Not a subset of	&notsubset;
Proper subset of	&prosubset;
Not a proper subset of	&notprosubset;
Ordered pair	(a,b)
Angle	&angle;
Partial derivative	&partial;
Logical and	&and;
Logical or	&or;
Logical not	&lognot;
Tilde	&tilde;
Infinity	&inf;

<b>Math symbols and expressions</b>	
<b>To type this expression or symbol...</b>	<b>Enter this...</b>
i (imaginary unit)	I
e (euler's constant)	E
Pi	&pi;
Gradient	&grad;
Integral	&integral;
Uppercase sigma/summation	&sum;

<b>Greek letters</b>	
<b>To type this letter...</b>	<b>Enter this...</b>
lowercase alpha	&alpha;
lowercase beta	&beta;
lowercase gamma	&gamma;
uppercase delta	&cdelta;
lowercase theta	&theta;
lowercase lambda	&lambda;
lowercase mu	&mu;
lowercase pi	&pi;
lowercase rho	&rho;
lowercase sigma	&sigma;
uppercase sigma/summation	&sum;
lowercase tau	&tau;
lowercase phi	&phiv;
uppercase phi (phi alt)	&phi;
lowercase chi	&chi;
lowercase psi	&psi;
lowercase omega	&omega;

## Windows Keyboard shortcuts and JAWS keystrokes

Here are some general Windows keyboard shortcuts and JAWS keystrokes that may be helpful when using MyMathLab. For a full list of JAWS keystrokes you can go to the Freedom Scientific help page:

<http://www.freedomscientific.com/doccenter/archives/training/JAWSKeystrokes.htm>.

General Windows keyboard shortcuts	Keystrokes
Toggle active applications	ALT+TAB
Toggle active tabs in your browser	CTRL+TAB
Close active program	ALT+F4
JAWS keyboard commands	Keystrokes
Top of page	CTRL+HOME
Read line by line	Down arrow, Up arrow
Read entire page	INSERT+Down arrow
Stop JAWS reading	ESCAPE
List of links	INSERT+F7
List of headings	INSERT+F6
List of forms (such as edit fields)	INSERT+F5
Next interactive item (such as links, forms)	TAB
Previous interactive item	SHIFT+TAB
Next heading	H
Previous heading	SHIFT +H
List of regions	CTRL + INSERT + R
Next region	R
Previous region	SHIFT + R

## Screen-Readable HTML Math eBooks

*Many of our math books are available as HTML/MathML eBooks. If your instructor has selected a text that has a corresponding screen-readable eBook, you can access it as follows:*

1. Open JAWS if it is not already running.
2. Login to your MyMathLab account, and enter your course.
3. Click on the Course Tools link.
4. Click on the HTML eBook link, then follow the directions.
5. To use the eBook with the JAWS screen reader you will need to use the Microsoft Internet Explorer browser and the Design Science math player which you can download from [www.dessci.com/en/products/mathplayer/download.htm](http://www.dessci.com/en/products/mathplayer/download.htm).