



Carnegie Learning 24/7 Math Help

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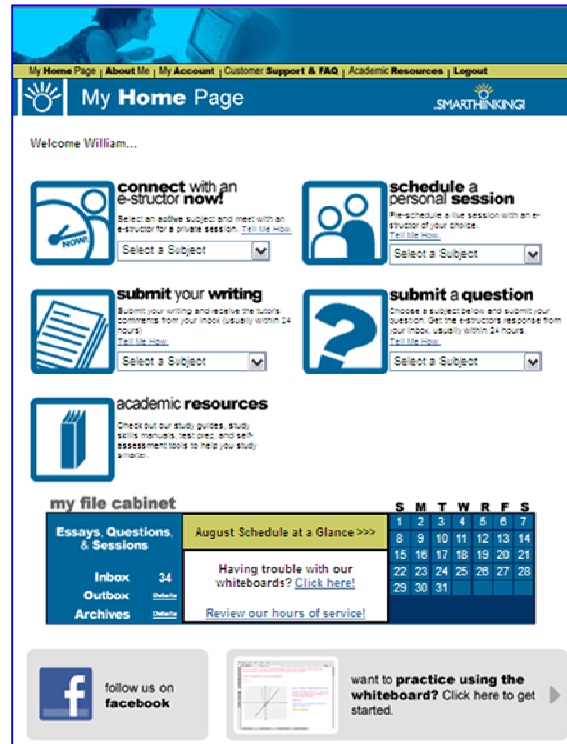


STUDENT HANDBOOK

Getting Started

The **SMARTHINKING Home Page** is the starting point for all of your tutoring interactions. The Menu Bar can be found either at the top of the screen (as shown here), or along the left hand margin. In either case, it includes hot links to the following:

- **My Home Page**-displays this page.
- **About Me**-opens up a form that will allow you to change your personal information.
- **My Account**-provides access to information about the amount of tutoring time available in your account as well as a list of sessions completed to date.
- **Customer Support & FAQ**-provides access to information that will help you solve any problems that arise when you are using SMARTHINKING
- **Academic Resources**-provides access to the SMARTHINKING Writer's and ESL Writer's Handbooks, an Accounting Glossary, a Study Guide Handbook, and links to sites that provide support for mathematics.
- **Log out**-allows you to log out of your account when you are finished using SMARTHINKING.
- **Follow us on facebook**-allows you to get updates and information about SMARTHINKING.



Tutoring options are displayed in the center of the screen.



connect with an e-structor now! is used when you want tutoring right away.

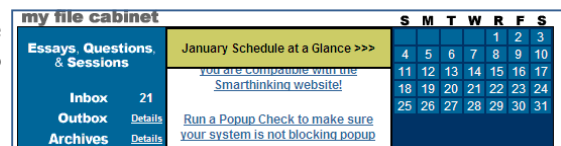


submit a question is used when you have decided to wait for a delayed response, rather than take time for a live session.



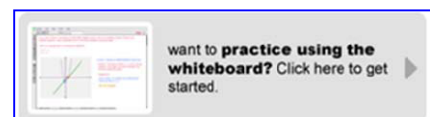
academic resources is used when you want to look for answers to your questions before engaging a tutor.

my file cabinet is located at the bottom of the screen. This is where you will find transcripts of your online sessions, copies of responses to questions you have submitted, and reviews/critiques of papers and essays submitted to the Essay Center.



Questions and Essays appear in the **Outbox** when they are submitted, in the **Inbox** when they are first returned, and in the **Archives** once they have been reviewed by you. The scrolling **Marquee** in the center of the file cabinet provides information about the SMARTHINKING service. The **Calendar** highlights any sessions you may have pre-scheduled.

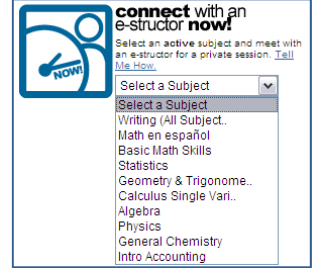
The last item on the home page is the link to the practice **White Board**. When you follow this link, you will be taken to a place where you can practice using the white board tools.





connect with an e-structor now!

Live, drop-in tutoring is one of the easiest ways to quickly get the assistance you need. Simply select the subject of interest from the drop-down list.



The SMARTHINKING Whiteboard will appear with a message telling you to type your question on the whiteboard and click “Submit Question” when you are ready to work with a tutor.

Write your question on the whiteboard, and click **Enter Question** when you are ready to connect with a tutor. Detailed instructions on the use of the whiteboard are provided at the end of this document.

You will use the SMARTHINKING whiteboard whenever you drop-in for live tutoring, submit a question, or participate in a pre-scheduled tutoring session. The whiteboard allows you and tutor to enter text, symbols, and drawings that identify and help answer your questions.



Entering Text

- Right click with your mouse and type at the point where you want text to appear.
- To delete text, place your cursor to the right of the letter (or word) you want to delete and hit the backspace key until you have removed all of the letters/words you want to remove. Each time you hit the backspace key, you will delete the letter to the left of the cursor.

Setting Text Properties

Use the property bar at the top of the whiteboard to establish the characteristics of your text. You must set the properties *before* you begin typing as changes cannot be made after text is entered.



You can set the **FONT** and **POINT SIZE** of your text, and you can determine whether it will appear as standard, **BOLD**, or **ITALIC**.

- Available **FONTS** include verdana, serif, and symbol. Click on the arrow to the right of the font name and select it.
- **POINT SIZES** between 8 and 30 may be used. To adjust point size, click on the up or down arrow on the left side of the properties bar.
- Click on the **B** to make your text **BOLD**, click on **I** to use **ITALICS**.

Note: Your text will always be **red**, and your tutor's text will always be **blue**; these colors cannot be changed. This convention makes it easy to tell who typed what on the whiteboard when you come back to review your session archives.

Entering Exponents

- Use the up arrow key on your keyboard to move the cursor up to enter an exponent.
- Use the down arrow key on your keyboard to move the cursor back to the text field.

Pasting Text from Other Applications

- Choose **TOOLS** from the top menu bar.
- Select **PASTE TEXT**.
- Use **CTRL V** to insert the text you want to paste on the whiteboard
- Click **PASTE** to place the text on the whiteboard.

Using Special Language Characters

In addition to standard text, the whiteboard includes four special character sets: Math, Greek, Language, and Chemistry. Click on the name of the character set you want, and a pop-up menu will appear listing the available characters. Click on the character you want to use, and it will appear on the whiteboard. These menus may be kept open and moved around on the whiteboard to make them more convenient to use during your session.



Special Tools



Clear Board: Deletes all content on the current page.



Copy: Copies a drawing (not text) to the clipboard.



Print: Prints the contents of the whiteboard.



Paste: Places a copy of your drawing (not text) on the whiteboard.



Cut: Cuts/deletes drawings (not text) from the whiteboard.

The tools below are found along the left side of the whiteboard.

Most of the tools function in the same way. To use these tools:

- Select the tool by left clicking on its icon with your mouse.
- Left click on the whiteboard, and hold the key down while you drag to the right to create the image you want.



Use **Select** to mark text or drawings that you want to move, or drawings whose properties you want to change. Selected items will be placed in a box. You can move items around on the whiteboard by holding and dragging the yellow box. When selected, you can resize drawn items (but not text) and you can change their properties (weight or thickness and color).

Note: Leave at least 4 spaces around the perimeter of the work you want to move to ensure that text and objects are moved together.



Use the **Highlighter Tool** to draw attention to drawings and text. You can change the weight (thickness) and color of the highlighting by using the properties menu.



Use the **Line**, **Curve** and **Freehand Drawing Tools** to create lines, curves, and freehand drawings. Use the properties menu to change the weight (thickness) and color of these drawings.



Use the **Rectangle** and **Oval Tools** to create basic shapes. Select these items to reshape or resize them. Use the properties menu to change the weight (thickness) and color of these drawings.



Use this tool to **Draw Fractions** on the whiteboard. Select the tool and then click on the whiteboard. Enter the numerator of your fraction and hit enter to move to the denominator. Enter the denominator. Hit enter again to complete the fraction and move to the next step.



Use this tool to **Draw Rectangular Graph Paper** on the whiteboard.



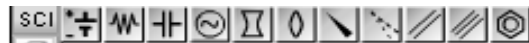
Use the **Parentheses**, **Root** and **Integral** tools to place these symbols on the whiteboard.



Use the **MAT** button to choose one of the available math symbols.



Use the **SCI** button to choose one of the available scientific symbols.



Use the layer button to change the order of items that have been placed on top of each other.



The SMARTHINKING Image Capture Tool

The SMARTHINKING whiteboard includes an **Image Capture Tool** that allows you to bring images or text to your tutoring session. Anything that you can display on your computer can be captured and sent to the whiteboard quickly and easily.

TIP: Hand-written homework assignments can be scanned into your computer or photographed with a digital camera/camera phone and uploaded or emailed for use with this option.

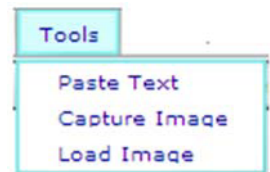
The image capture tool is found under the tools menu within the whiteboard. Click on **TOOLS** and then **CAPTURE IMAGE** to access this option. Once you have accessed the tool, an image of the screen behind the whiteboard will be captured.

NOTE: Before you use this tool, you will need to make sure that the information you want to use in the whiteboard is positioned behind the whiteboard. This will require that you take the following action:

- Open the Whiteboard for the subject in which you would like to be tutored.
- Open the file or browser window that contains the image you want to bring to the whiteboard.
- Use ALT-Tab to switch back to the Whiteboard. The window that contains the information you want to bring to the Whiteboard should be positioned behind the Whiteboard. If it is not, repeat this process until it is visible.

Once your file is visible behind the Whiteboard, follow these steps to use this tool:

- Select the **CAPTURE IMAGE** tool located in the Whiteboard **TOOLS** menu.
- An image of your desktop will appear, with the window containing your image in the center.
- Click on the image with your left mouse button above and to the left of the portion of that image that you want to bring to the Whiteboard.
- Drag down to the right until the information you want to **CAPTURE** is enclosed in a grey rectangle.
- Release the mouse button to send the image to the Whiteboard.
- If the image sent to the Whiteboard is not what you intended, you can delete the image.



NOTE: There is a size limit on captured images, you'll be prompted to reselect if you exceed the size limit.

Sample Math Interaction

http://www.smarthinking.com - Tutoring Platform from SMARTHINKING - Microsoft Internet Explorer

Actions Show Edit Tools Help

Page: 1

Um my question is find the gcf and lcm im having trouble with step 2 & 3

Hi Jennifer, my name is Trey Can you give me an example of the type of problem you are working on? sure um find the lcm of 4 and 6

Okay, how would you start? i would break it down like $2*2$ for the 4 and $2*2*3$ for 6

Almost... the prime factorization for 6 is $2*3$ - what's your next step Jennifer? that is where i get stuck at i don't understand what to do then

Okay, we are looking for the LCM, least common multiple - let me ask you: is the LCM(4,6) larger or smaller than the original numbers

2 is used twice and 3 once - is that what you mean No :-) let me explain with an example:
multiples of 5 are:
 $5*1 = 5$
 $5*2 = 10$
 $5*3 = 15$
 $5*4 = 20$

okay... so the multiple of 4 & 6 is two right?

2 is a common divisor of 4 & 6, we are looking for a number that is a multiple of both 4 & 6

Can you list the first few multiples of 4 & 6?

4: 4, 8, 12, 16, 20, 24, 28 good and for 6: 6, 12, 18, 24, 30, 36

let's noticed that both 12 and 24 appear in both lists, 12 and 24 are common multiples of 4 & 6. You want the Least Common Multiple so that's 12 correct!

okay but in the book, why do we have to break down the numbers to find that

We've found the LCM(4,6) = 12, but the method described in your book is more efficient when working large numbers

What is the prime factorization of 12, Jennifer? $2*2*3$ exactly

$$\begin{array}{r} 4 = 2*2 \\ 6 = 2*3 \\ \hline \text{lcm}(4,6) = 2*2*3 = 12 \end{array}$$

To find the LCM, we take the product of each prime number that appears in either factorization

Let's consider another example 8: $2*2*2$ Jennifer, can you write the prime factorizations for 8 & 12

12: $2*2*3$

good, and the LCM(8,12) will be $2^3*3 = 24$

Well done Jennifer, do you feel comfortable with finding the LCM?

i was getting confused by what the book was showing

the gcd for 8 & 12 is 4 right? yes - can you tell me how you found that Jennifer?

2 is in both lists twice

Good, you seem to be ready to try a few on your own.

thank you Trey... Bye for now

Math Characters Greek Characters Language Characters Chemistry Characters

Submit Question Exit / Options

Done Internet

Sample Bi-Lingual Math Interaction

http://www.smarthinking.com - Tutoring Platform from SMARTHINKING - Microsoft Internet Explorer

Actions Show Edit Tools Help

Page: 1

Verdana

The diameter of a tree trunk varies directly with the age of the tree. A 45-year-old tree has a trunk diameter of 18 inches. What is the age of a tree that has a trunk diameter of 20 inches?

A 47 years
B 50 years
C 63 years
D 90 years

I could use some help
Hello Edwin, welcome to smarthinking.com.
My name is Hernan.
Hernan, ¿hablas español?
Si, hablo espanol. ¿Entiendes el enunciado del problema? "Diameter varies diretly with age"
No, no se a que se refiere
El enunciado dice: "El diametro del tronco es directamente proporcional a la edad del arbol".
¿Puedes escribir la ecuación?
creo que sería $d = ka$

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Yes, exactly. "k" stands for the "variation parameter". Can you find this parameter from the given data? yes

Ok. Can you solve for k from this expression?

$18 = k \cdot 45$

$\frac{18}{45} = \frac{45}{45}k$ Exactly. Very good.

$\frac{18}{45} = k$

Now, can you find the age of the tree with a 20 inch diameter?
I'll try $20 = \frac{2}{5}(a)$
 $a = 50$ Very good.

We can try to solve a slightly different example if you wish. ok!

Ok. Try to solve this problem: "x varies inversely with y"
En español: " x es inversamente proporcional a y" sería $x = k/y$
Can you write the equation asociated to this statement? Exactly. Very Good

What about the equation $y = \frac{kx}{z}$?
Can you translate this equation into a word statement?
y es directamente proporcional a x e inversamente proporcional a z
¿Bien, podrias traducirlo al inglés?
y varies directly with x and inversely with z
is this correct Hernan? Yes, this is correct.

Great. Thank you very much for your Help !
You are welcome!. Have a great day. Good bye.

Math Characters Greek Characters Language Characters Chemistry Characters

Submit Question Exit / Options

Done Internet