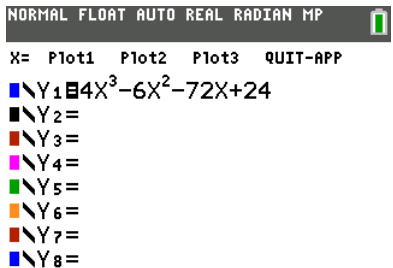
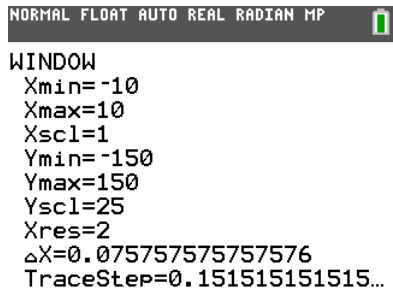
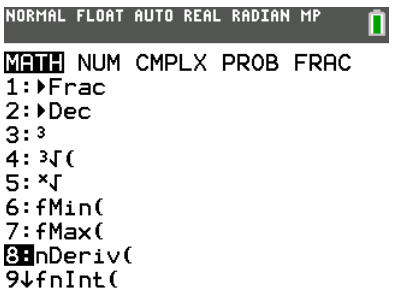
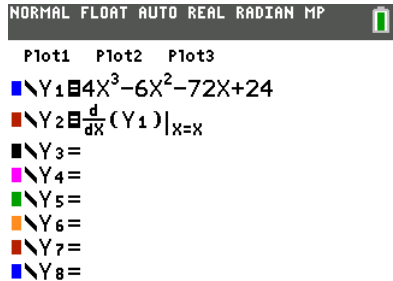
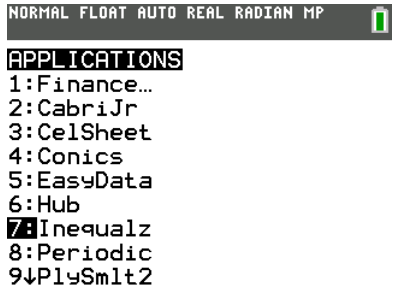
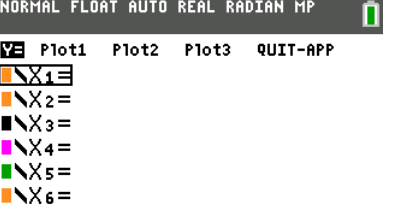




1st Derivative Test: Visualize Inc/Dec Function Intervals

TI PROFESSIONAL DEVELOPMENT

STUDENT

<p>1. Type the following function into Y1. Set the colors as shown</p> 	<p>2. Set the window as follows:</p> 	<p>3. Graph Y1.</p>
<p>4. Use the nDeriv(command in the math menu as seen below:</p> 	<p>5. Into Y2, type the derivative of Y1, as shown below:</p> 	<p>6. Graph Y1 and Y2. Compare and contrast.</p> <p>Use TRACE to help locate one interval where the function is increasing.</p> <p>Write that interval below:</p>
<p>7. Run the INEQUALZ app.</p> 	<p>8. Using the interval you found in number 6 above, type that into the 'x =' list, X1, but using the correct inequality symbol.</p> 	<p>9. Graph that inequality in X1. Look at the graph of the function in Y1.</p> <p>Notice that it is an increasing function in this interval.</p> <p>What do you notice about the values for the first derivative that is graphed as Y2 in this interval?</p>



1st Derivative Test: Visualize Inc/Dec Function Intervals

TI PROFESSIONAL DEVELOPMENT		STUDENT
<p>10. Turn off the graph of X1. Use TRACE to help locate the other interval where the function is increasing. Write that interval below:</p>	<p>11. Using the interval you found in number 10 on the left, type that into the 'x =' list, X2, but using the correct inequality symbol.</p>	<p>12. Graph that inequality in X2. Look at the graph of the function in Y1. Notice that it is an increasing function in this interval. What do you notice about the values for the first derivative that is graphed as Y2 in this interval?</p>
<p>13. Keep the inequality on that is in X2. Turn the inequality in X1 back on.</p>	<p>14. Graph.</p>	<p>15. Describe the interval that is unshaded mathematically.</p> <p>What do you notice about the values of Y1 in the interval that is unshaded by X1 and X2?</p> <p>What do you notice about the values of the derivative, Y2, in the interval that is unshaded by X1 and X2?</p>