

*There are no great limits to growth because there are no limits of human intelligence, imagination, and wonder.*

– Ronald Reagan

Answer the following questions. You may use a graphing calculator to assist you.

1	For the function $f(x) = 5x^2$ , as the $x$ -value gets closer and closer to 3, $f(x)$ gets closer and closer to what value?
2	For the function $f(x) = \frac{x^2 - 4}{x - 2}$ , as the $x$ -value gets closer and closer to 2, $f(x)$ gets closer and closer to what value?
3	For the function $f(x) = e^x + 1$ , as the $x$ -value gets closer and closer to 0, $f(x)$ gets closer and closer to what value?
	<p>The graph of <math>f(x)</math> is given below, use the graph to answer the following questions.</p> <p>4) a) <math>\lim_{x \rightarrow 4^-} f(x)</math>    b) <math>\lim_{x \rightarrow 4^+} f(x)</math>    c) <math>\lim_{x \rightarrow 4} f(x)</math>    d) <math>f(4)</math></p> <p>5) a) <math>\lim_{x \rightarrow 1^-} f(x)</math>    b) <math>\lim_{x \rightarrow 1^+} f(x)</math>    c) <math>\lim_{x \rightarrow 1} f(x)</math>    d) <math>f(1)</math></p>
7	Simplify $\frac{x^2 + 7x + 12}{x^2 - 16}$