Given the formula to the right, find the derivative of the following:

1. y = x2
2. g(x) = x3
3. v = 2
4. f(x) = $\frac{1}{x}$
5. z = $\frac{2}{x^{2}}$

Evaluate the limits of the following:

1. lim $\frac{(3+h)^{2}-3^{2}}{h}$

h→0

1. lim $\frac{1-x^{2}}{3x^{2}+2x-4}$

x→∞

1. lim $\frac{3-14x^{5}+2x^{3}}{x^{4}-x^{5}+1}$

x→-∞

1. lim $\frac{2x-15x^{3}}{14x^{2}-13x}$

x→-∞