**Colorado Technical University**

**Course:** MATH205 – Differential Calculus

#### Unit 4 Part 7 Readings – Product and Quotient Rules, Transcendentals

**Rule #4: Derivative of a Product:**

If *y* = *u* × *v* where *u* and *v* are functions of *x*, then:

= *u* + *v*

**Rule #5: Derivative of a Ratio:**

If *y* = *u*  *v* where *u* and *v* are functions of *x*, then:

=

**Derivatives of Transcendental Functions**

sin *x* = cos *x* cot *x* = csc 2 *x*

cos *x* = –sin *x* sec *x* = sec *x* tan *x*

tan *x* = sec2 *x* csc *x* = csc *x* cot *x*

sin-1 *x* = cot -1 *x* =

cos-1 *x* = sec-1 *x* =

tan-1 *x* = csc-1 *x* =

logb *x* = 1/(x ln(b)) b*x* = b*x* ln(b)

ln *x* = e*x* = e*x*

Diagram

Description automatically generated