;Austin Spencer

;Scheme Program #5

;The first function will find the answer to the nth term of the geometric progression

;The second function uses the fast pow algorithm to calculate the power function

(define

(geometricSequence initialValue commonRatio nthTerm)

(if (>= nthTerm 1)

(\* initialValue(expt commonRatio (- nthTerm 1)))

(initialValue\*commonRatio)

)

)

(define

(fastPow value exponent)

(if

(>= exponent 1)

(if

(even? exponent)

(if

(= exponent 2)

(\* value value)

(expt

(fastPow value (/ exponent 2)) 2)

)

(\* value (fastPow value (- exponent 1)))

)

(= value 1)

)

)