Calendar Formulae

All calculations are real number operations unless specifically stated otherwise.

**div** indicates integer division

**mod** indicates integer modulus

# Utility formulae

## Floating-point modulus

# Time-of-day formulae

## Time-of-day from hours, minutes, seconds

## Hours, minutes, seconds, from time-of-day

# Julian Date (JD) and Julian Day Number (JDN) formulae

Any operation that takes a JD can take a JDN without modification.

## Day of week from Julian Date (JD)

## Time-of-day from Julian Date (JD)

## HMS from Julian Date (JD)

## Julian Day Number (JDN) from Julian Date (JD)

The JDN is the JD adjusted to 12 am (0:00:00) of that given day.

# Gregorian calendar formulae

## Gregorian (G) Leap-year

## Gregorian (G) add months (n)

## Gregorian (G) add years (n)

## Gregorian to JDN (Integer implementation)

## Gregorian to JDN (Floating-point implementation)

*All variables are real numbers*

## JD to Gregorian (Integer implementation)

## Gregorian to JD (with H:M:S)

## JD to Gregorian (with H:M:S)

# Julian calendar formulae

## Julian (J) Leap-year

## Julian (J) add months (n)

## Julian (J) add years (n)

## Julian to JDN (Integer implementation)

## JD to Julian

## Julian to JD (with H:M:S)

## JD to Julian (with H:M:S)

# Islamic calendar formulae

Calendar dates run from noon to noon.

Weekday names are used from midnight to midnight.

## Islamic (I) Leap-year

## Islamic (I) Days in month

## Islamic (J) add months (n)

## Islamic (I) add years (n)

## Islamic (I) to JDN

## JD to Islamic

## Islamic to JD (with H:M:S)

## JD to Islamic (with H:M:S)

# Hebrew calendar formulae

Calendar dates run from noon to noon.

Weekday names are used from midnight to midnight.

## Hebrew (H) leap-year

## Hebrew (H) months in year

## Hebrew (H) delay of week

## Hebrew (H) delay adjacent year

## Hebrew (H) days in year

## Hebrew (H) days in month

## Hebrew (H) to JDN

## JD to Hebrew

## Hebrew to JD (with H:M:S)

## JD to Hebrew (with H:M:S)

# Star Trek Vulcan Calendar Formulae

## Terms

R’tas: Vulcan year (R)

T’Kuhati: Vulcan month (TK)

T’Ved: Vulcan day (TV)

V’hral: Vulcan hour (Vh)

lirt’k: Vulcan minute (lk)

lik’rt: Vulcan second (lt)

## Conversions

1 R = 12 TK = 252 TV = 266.4 Earth day

1 TK = 21 TV

1 TV = 18Vh

1 Vh = 54 lk

1 lk = 54 lt

## Month Names

1. Z’at
2. D’ruh
3. K’riBrax
4. re’T’Khutai
5. T’keKhuti
6. Khuti
7. Ta’Krat
8. K’ri’lior
9. et’khior
10. T’lakht
11. T’ke’Tas
12. Tasmeen

## Conversions

Z’at 1, 9051 0:0:0 = December 11, 2364 12:0:0 = JD 2584838

## Epoch

Z’at 1, 1 = JD 173651.6