ANGLES & BASIC TRIGONOMETRY

```
real arccos(real x);
real arcsin(real x);
real arctan(real x);
real arctan2(real x, real y);
real cos(real val);
real sin(real val);
real tan(real val);
real dcos(real val);
real dsin(real val);
real dtan(real val);
real darccos(real x);
real darcsin(real val);
real darctan(real val);
real darctan2(real x, real y);
real degtorad(real deg);
real radtodeg(real rad);
```

RANDOM

```
Any choose(Any val0, Any val1, Any val2 ...);
real random(real n);
real random_range(real n1, real n2);
real irandom(real n1);
real irandom_range(real n1, real n2);
undefined random_set_seed(real val);
real random_get_seed();
real randomise();
```

VECTORS

```
real point_direction(real x1, real y1, real x2, real y2);
real point_distance(real x1, real y1, real x2, real y2);
real point_distance_3d(real x1, real y1, real z1, real x2, real y2, real z2);
real distance_to_obj(ObjectAsset | InstanceID obj);
real distance_to_point(real x, real y);
real dot_product(real x1, real y1, real x2, real y2);
real dot_product_3d(real x1, real y1, real z1, real x2, real y2, real z2);
real dot_product_normalized(real x1, real y1, real x2, real y2);
real dot_product_3d_normalized(real x1, real y1, real z1,
                               real x2, real y2, real z2);
real angle_difference(real dest, real src);
real lengthdir_x(real len, real dir);
real lengthdir_y(real len, real dir);
```

ROUNDING

```
real round(real n);
real floor(real n);
real frac(real n);
real abs(real val);
real sign(real n);
real ceil(real x);
real max(real val0, real val1, real val2, ...);
real mean(real val0, real val1, real val2, ...);
real median(real val0, real val1, real val2, ...);
real min(real val0, real val1, real val2, ...);
real lerp(real a, real b, real amount);
real clamp(real val, real min, real max);
```

MISCELANEOUS

```
real exp(real n);
real ln(real n);
real power(real n, real x);
real sqr(real val);
real sqrt(real val);
real log2(real n);
real log10(real n);
real logn(real n, real val);
```

DATE & TIME

CREATE

```
Datetime date_create_datetime(
      real year, real month, real day,
      real hour, real minute, real second);
Datetime date_current_datetime();
```

TO STRING

```
string date_date_string(Datetime date);
string date_datetime_string(Datetime date);
string date_time_string(Datetime date);
```

GET DATE ELEMENTS

```
real date_get_second(Datetime date);
real date_get_minute(Datetime date);
real date_get_hour(Datetime date);
real date_get_day(Datetime date);
real date_get_weekday(Datetime date);
real date_get_week(Datetime date);
real date_get_month(Datetime date);
real date_get_year(Datetime date);
real date_date_of(Datetime date);
real date_time_of(Datetime date);
real date_days_in_month(Datetime date);
real date_days_in_year(Datetime date);
```

COMPARE & VALIDATE

```
bool date_is_today(Datetime date);
bool date_leap_year(Datetime date);
real date_compare_date(Datetime date1, Datetime date2);
real date_compare_datetime(Datetime date1, Datetime date2);
real date_compare_time(Datetime date1, Datetime date2);
bool date_valid_datetime(real year, real month, real day, real hour, real minute, real second);
```

PROPERTIES

```
real current_time          real curent_day
real current_second        real current_weekday
real current_minute        real current_month
real current_hour          real current_year
```

DELTA

```
real date_second_span(Datetime date1, Datetime date2);
real date_minute_span(Datetime date1, Datetime date2);
real date_hour_span(Datetime date1, Datetime date2);
real date_day_span(Datetime date1, Datetime date2);
real date_week_span(Datetime date1, Datetime date2);
real date_month_span(Datetime date1, Datetime date2);
real date_year_span(Datetime date1, Datetime date2);
```

GET DATE ELEMENTS (YEARLY)

```
real date_get_second_of_year(Datetime date);
real date_get_minute_of_year(Datetime date);
real date_get_hour_of_year(Datetime date);
real date_get_day_of_year(Datetime date);
```

INCREMENT DATE

```
Datetime date_inc_second(Datetime date, real amount);
Datetime date_inc_minute(Datetime date, real amount);
Datetime date_inc_hour(Datetime date, real amount);
Datetime date_inc_day(Datetime date, real amount);
Datetime date_inc_week(Datetime date, real amount);
Datetime date_inc_month(Datetime date, real amount);
Datetime date_inc_year(Datetime date, real amount);
```