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# Node Vec Math Items

## ADD:

Add.

$A + B$ .

## SUBTRACT:

Subtract.

$A - B$ .

## MULTIPLY:

Multiply.

Entry-wise multiply.

## DIVIDE:

Divide.

Entry-wise divide.

## MULTIPLY\_ADD:

Multiply Add.

$A * B + C$ .

## CROSS\_PRODUCT:

Cross Product.

$A \text{ cross } B$ .

## PROJECT:

Project.

Project A onto B.

## REFLECT:

Reflect.

Reflect A around the normal B. B doesn't need to be normalized..

## REFRACT:

Refract.

For a given incident vector A, surface normal B and ratio of indices of refraction, Ior, refract returns the refraction vector, R.

## FACEFORWARD:

Faceforward.

Orients a vector A to point away from a surface B as defined by its normal C. Returns  $(\text{dot}(B, C) < 0) ? A : -A$ .

## DOT\_PRODUCT:

Dot Product.

$A \text{ dot } B$ .

## DISTANCE:

Distance.

Distance between A and B.

## LENGTH:

Length.

Length of A.

## SCALE:

Scale.

A multiplied by Scale.

#### **NORMALIZE:**

Normalize.

Normalize A.

#### **ABSOLUTE:**

Absolute.

Entry-wise absolute.

#### **MINIMUM:**

Minimum

Entry-wise minimum.

#### **MAXIMUM:**

Maximum

Entry-wise maximum.

#### **FLOOR:**

Floor.

Entry-wise floor.

#### **CEIL:**

Ceil.

Entry-wise ceil.

#### **FRACTION:**

Fraction.

The fraction part of A entry-wise.

#### **MODULO:**

Modulo.

Entry-wise modulo using fmod(A,B).

#### **WRAP:**

Wrap.

Entry-wise wrap(A,B).

#### **SNAP:**

Snap.

Round A to the largest integer multiple of B less than or equal A.

#### **SINE:**

Sine.

Entry-wise  $\sin(A)$ .

#### **COSINE:**

Cosine.

Entry-wise  $\cos(A)$ .

#### **TANGENT:**

Tangent.

Entry-wise  $\tan(A)$ .

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