

Conversions

Decimal $\Rightarrow$ DMS

Example 3: Convert 5.128° to DMS. Round to the nearest second.

$$\underline{5^\circ} \quad \underline{7'} \quad \underline{40.8''}$$

Step 1: Separate the whole number from the decimal.

$$5^\circ + 0.128^\circ$$

Step 2: Convert the decimal to minutes by multiplying by 60'.

$$0.128 \cdot 60 = \underline{7.68}$$

7'

Step 3: Convert this decimal to seconds by multiplying by 60''.

$$0.68 \times 60 = 40.8 = 41''$$

Example 4: Convert 34.817° to DMS. Round to the nearest second.

$$34^\circ \quad 49' \quad 1''$$

D°M'S"

Degrees° Minutes' Seconds "

1 degree (like an hour) = 60 minutes

1 minute = 60 seconds

1 degree = 3600 (60 * 60) seconds

Conversions

DMS $\Rightarrow$ Decimal

*Do not round anything until your final answer! Type it in your calculator as one big problem.

Example 1: Convert $2^\circ 27' 4''$. Round to the nearest thousandth.

$$2^\circ + \frac{27}{60} + \frac{4}{3600} = 2.451^\circ$$

$\downarrow$ $\downarrow$
 0.45 0.00111

Example 2: Convert $78^\circ 8' 14''$. Round to the nearest thousandth.

$$\boxed{78.137}$$