```
> restart:
> assume(n :: integer, j :: integer, T > 0);
```

$$> \mathit{simplify}\left(\frac{1}{T}\cdot\int_0^T \sin\left(\frac{2\cdot\pi\cdot n\cdot t}{T}\right)\cdot\sin\left(\frac{2\cdot\pi\cdot j\cdot t}{T}\right)\,dt\right);$$

$$0 \tag{1}$$

$$> \mathit{simplify}\left(\frac{1}{T}\cdot\int_0^T \sin\left(\frac{2\cdot\pi\cdot n\cdot t}{T}\right)\cdot\cos\left(\frac{2\cdot\pi\cdot j\cdot t}{T}\right)\,dt\right);$$

$$0 \tag{2}$$

$$> \mathit{simplify}\left(\frac{1}{T}\cdot\int_0^T \cos\left(\frac{2\cdot\pi\cdot n\cdot t}{T}\right)\cdot\cos\left(\frac{2\cdot\pi\cdot j\cdot t}{T}\right)\,dt\right);$$

$$0 \tag{3}$$

$$> \mathit{simplify}\left(\frac{1}{T}\cdot\int_0^T \sin\left(\frac{2\cdot\pi\cdot n\cdot t}{T}\right)\cdot\sin\left(\frac{2\cdot\pi\cdot n\cdot t}{T}\right)\,dt\right);$$

$$\frac{1}{2} \tag{4}$$

$$> \mathit{simplify}\left(\frac{1}{T}\cdot\int_0^T \sin\left(\frac{2\cdot\pi\cdot n\cdot t}{T}\right)\cdot\cos\left(\frac{2\cdot\pi\cdot n\cdot t}{T}\right)\,dt\right);$$

$$0 \tag{5}$$

$$> \mathit{simplify}\left(\frac{1}{T}\cdot\int_0^T \cos\left(\frac{2\cdot\pi\cdot n\cdot t}{T}\right)\cdot\cos\left(\frac{2\cdot\pi\cdot n\cdot t}{T}\right)\,dt\right);$$

$$\frac{1}{2} \tag{6}$$

```
>
```