```
> with(IntegrationTools);
```

[*Change*, *Combine*, *Expand*, *Flip*, *GetIntegrand*, *GetOptions*, *GetParts*, *GetRange*, *GetVariable*, *Parts*, *Split*, *StripOptions*] (1)

```
> A1:=Int(ln(x)/(x-1)^3,x);
```

$$A1 := \int \frac{\ln(x)}{(x-1)^3}\,dx \tag{2}$$

```
> A2:=Parts(A1,ln(x));
```

$$A2 := -\frac{1}{2}\,\frac{\ln(x)}{(x-1)^2} - \left(\int\left(-\frac{1}{2\,(x-1)^2 x}\right)dx\right) \tag{3}$$

```
> A3:= value(A2);
```

$$A3 := -\frac{1}{2}\,\frac{\ln(x)}{(x-1)^2} - \frac{1}{2\,(x-1)} + \frac{1}{2}\ln(x) - \frac{1}{2}\ln(x-1) \tag{4}$$

```
> diff(A3,x);
```

$$\frac{\ln(x)}{(x-1)^3} - \frac{1}{2\,(x-1)^2 x} + \frac{1}{2\,(x-1)^2} + \frac{1}{2\,x} - \frac{1}{2\,(x-1)} \tag{5}$$

```
> normal(diff(A3,x));
```

$$\frac{\ln(x)}{(x-1)^3} \tag{6}$$

```
> B1:=Int(sin(x)*cos(x)^2,x);
```

$$B1 := \int \sin(x)\,\cos(x)^2\,dx \tag{7}$$

```
> B2:=Change(B1,cos(x)=u);
```

$$B2 := \int\left(-u^2\right)du \tag{8}$$

```
> B3:=value(B2);
```

$$B3 := -\frac{1}{3}\,u^3 \tag{9}$$

```
> B4:=subs(u=cos(x),B3);
```

$$B4 := -\frac{1}{3}\,\cos(x)^3 \tag{10}$$

```
> diff(B4,x);
```

$$\sin(x)\,\cos(x)^2 \tag{11}$$

```
> C1:=Int(sin(x)*x,x=0..Pi);
```

$$C1 := \int_0^{\pi} \sin(x)\,x\,dx \tag{12}$$

```
> C2:=Parts(C1,x);
```

$$C2 := \pi - \left(\int_0^{\pi}\left(-\cos(x)\right)dx\right) \tag{13}$$

```
> value(C2);
```

$$\pi \tag{14}$$