Use a computer algebra system to evaluate the integral. Compare the answer with the result using tables. If the answers are not the same, show that they are equivalent.[1]

$$\int \frac{1}{\sqrt{1+\sqrt[3]{x}}}\,\mathrm{d}x$$

As we write this, it is January 26, 2016. Nobody uses tables to integrate any longer. We'll use Wolfram|Alpha (W|A).

Using Mathematica format, the input is

```
Integrate[1/Sqrt[1+x^(1/3)], x]
```

and we get

$$\int \frac{1}{\sqrt{1+\sqrt[3]{x}}}\,dx = \frac{2}{5}\sqrt{\sqrt[3]{x}+1}\left(3\,x^{2/3}-4\sqrt[3]{x}+8\right) + \text{constant}$$

Computed by Wolfram|Alpha

Thus,

$$\int \frac{1}{\sqrt{1+\sqrt[3]{x}}}\,\mathrm{d}x = \frac{2}{5}\sqrt{1+\sqrt[3]{x}}\left(3x^{2/3}-4\sqrt[3]{x}+8\right)+C$$

[1] Stewart, *Calculus, Early Transcendentals*, p. 513, #44.