

$$2) \left(\frac{\sqrt{1+\sqrt{r}}}{\sqrt{r+\sqrt{r}}} \right)^r = \frac{\left(\frac{1+\sqrt{r}}{r+\sqrt{r}} \right)^r}{\left(\frac{r+\sqrt{r}}{r+\sqrt{r}} \right)^r} = \frac{1}{r+\sqrt{r}}$$

$$\therefore \frac{\sqrt{r+\sqrt{r}}}{\sqrt{r}(\sqrt{r}+\sqrt{r})} = \frac{1}{\sqrt{r}}$$

$$x^r = \left(\sqrt{r-\sqrt{r}} - \sqrt{r+\sqrt{r}} \right)^r \Rightarrow x^r = r - r\sqrt{r}$$

$$\Rightarrow \frac{1}{\sqrt{r}} \times (-\sqrt{r}) = \textcircled{-1}$$

$$= r \Rightarrow x = -\sqrt{r}$$

$$\text{Sol)} \frac{1\sqrt{p+1}\sqrt{p}}{a-\sqrt{p}} \times \frac{a+\sqrt{p}}{a+\sqrt{p}} = \frac{(1\sqrt{p+1}\sqrt{p})(a+\sqrt{p})}{19} = \frac{19(\sqrt{p+1}\sqrt{p})}{19} = \sqrt{p+1}\sqrt{p}$$

$$1(\sqrt{p}-1)^{-1} = \frac{1}{\sqrt{p}-1} \times \frac{\sqrt{p}+1}{\sqrt{p}+1} = \frac{1(\sqrt{p}+1)}{p} = \sqrt{p}+1 \quad (2)$$

$$\Rightarrow \frac{1\sqrt{p}-1}{p+\sqrt{p}} \times \frac{1}{p-\sqrt{p}} = \frac{(1\sqrt{p}-1)(p-\sqrt{p})}{1p} = \frac{1p(\sqrt{p}-1)}{1p}$$

$$(1-\sqrt{p})^{-1} = \frac{1}{1-\sqrt{p}} \times \frac{1+\sqrt{p}}{1+\sqrt{p}} = \frac{1+\sqrt{p}}{1-(p+1)} = \frac{1+\sqrt{p}}{-p} = -\frac{1+\sqrt{p}}{p}$$

$$\sqrt{1+\sqrt{p}} = \sqrt{\frac{p}{p} + \frac{1}{p}} \times \sqrt{\frac{p}{p} - \frac{1}{p}} = \sqrt{\frac{p+1}{p} - \frac{p-1}{p}} = \sqrt{\frac{p+1-p+1}{p}} = \sqrt{\frac{2}{p}} = \frac{\sqrt{2}}{\sqrt{p}} \quad (1,8)$$

$$\sqrt{p} \times \frac{1}{\sqrt{p}-\sqrt{p}} \Rightarrow \sqrt{p+1} = \sqrt{\frac{p}{p} + \frac{1}{p}} - \sqrt{\frac{p}{p} - \frac{1}{p}} = \frac{\sqrt{p+1}-\sqrt{p-1}}{\sqrt{p}} \Rightarrow \frac{\sqrt{p}}{\sqrt{p}-\sqrt{p}} = \sqrt{p+1}$$

$$\frac{1\sqrt{p}}{\sqrt{p}-\sqrt{p}} \times \frac{1\sqrt{p}+\sqrt{p}}{1\sqrt{p}+\sqrt{p}} = \frac{(1\sqrt{p})(1\sqrt{p}+\sqrt{p})}{1} = 1+\sqrt{p} - 1 = \sqrt{p+1}$$

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$$\sqrt{\frac{p}{p+1}} = \sqrt{\frac{p}{p+1}} \times \sqrt{\frac{p+1}{p+1}} = \frac{\sqrt{p(p+1)}}{p+1} = \sqrt{p} \times \frac{1}{\sqrt{p+1}}$$

$$\sqrt{1+\sqrt{p}} = \sqrt{p} \times \frac{1}{\sqrt{p+1}} \Rightarrow \sqrt{p} \times (1\sqrt{p} \times \frac{1}{\sqrt{p+1}}) \times (1\sqrt{p} \times \frac{1}{\sqrt{p+1}}) = (K) \quad \checkmark$$

