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نام و نام خانوادگی ..... امین اسحاقی ..... پاسخنامه تشریحی تکلیف شماره ۳۰ ..... کلاس ۲۰

$$x=1 \rightarrow \frac{1x-1}{10x-1} = \frac{1}{1} \checkmark$$

(۲)

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$$x=0 \rightarrow \frac{1-3x-3x-1}{x} = \frac{-6x}{x} = -6 \checkmark$$

(۲)

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$$\frac{x-2}{\sqrt{x}-2} = \frac{(\cancel{\sqrt{x}-2})(\sqrt{x}+2)}{\cancel{\sqrt{x}-2}} \quad x=2 \rightarrow 2+2=4 \checkmark$$

(۲)

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$$\frac{x-\sqrt{x}}{x^2-x-9} = \frac{x^2-x}{x^2-x-9} \times \frac{1}{x} = \frac{x(x-1)}{(x-1)(x+3)} \times \frac{1}{x} = \frac{1}{x+3} = \frac{1}{12} \checkmark$$

(۲)

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$$\frac{1-\sqrt{x}}{x-\sqrt{x}-x} = \frac{1-x}{x-x+x} \times \frac{x}{x} = -1 \checkmark$$

(۲)

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$$\frac{\sqrt{r^2n+k} - r}{\sqrt{r^2n+k} - r} = \frac{r^2n+k-19}{r^2n+k-19} \times \frac{r}{r} = \frac{r}{r} \times \frac{r}{r} = \frac{11}{10} \checkmark$$

(r)

$$\frac{\sqrt{r^2n+\sqrt{n}} - r}{\sqrt{r^2n+\sqrt{n}} - r} = \frac{r^2n+\sqrt{n}-r}{r-1} \times \frac{r}{r} = \frac{r^2t^r+t-k}{t^r-1} \times \frac{r}{r} = \frac{r}{r} \checkmark$$

(r)

$$\frac{1+\cos^r n}{\sin^r n} = \frac{1+\cos^r n}{1-\cos^r n} = \frac{(1+\cos n)(1-\cos n + \cos^r n)}{(1-\cos n)(1+\cos n)} = \frac{r}{r} \checkmark$$

(r)

1

$$\frac{1-\tan n}{\sin n - \cos n} = 1 - \frac{\sin n}{\cos n} = \frac{\cos n - \sin n}{\cos n} = \frac{\cos n - \sin n}{\sin n - \cos n} = -\frac{1}{\cos n} = -\sqrt{r} \checkmark$$

(r)

1

$$\frac{\tan^r n - 1}{\cos^r n} = \frac{(\tan n - 1)(\tan n + 1)}{\cos^r n} = \frac{\left(\frac{\sin n}{\cos n} - 1\right)\left(\frac{\sin n}{\cos n} + 1\right)}{\cos^r n - \sin^r n}$$

(r)

1.

$$\frac{\left(\frac{\sin n - \cos n}{\cos n}\right)\left(\frac{\sin n + \cos n}{\cos n}\right)}{1(\cos n - \sin n)(\cos n + \sin n)} = -\frac{1}{\cos^2 n} = -r \checkmark$$