12. Express in simplest form:

$$\frac{4x+8}{x+1} \cdot \frac{2-x}{3x-15} \div \frac{x^2-4}{2x^2-8x-10}$$

$\rightarrow 2(x^2-4x-5)$

$2(x-5)(x+1)$

$$\frac{4(x+2)}{x+1} \cdot \frac{-1}{3(x-5)} \cdot \frac{2(x-5)(x+1)}{(x+2)(x-2)}$$

$$= \frac{-8}{3}$$

13. Simplify:

$$\frac{m}{mn-n^2} - \frac{1}{m-n} - \frac{1}{n}$$

$$\frac{m}{n(m-n)} - \frac{1 \cdot n}{(m-n)n} - \frac{1(m-n)}{n(m-n)}$$

$$= \frac{m - n - n + n}{n(m-n)} = \frac{0}{n(m-n)} = 0$$

1. Simplify $\sqrt[4]{16a^6b^4}$.

$= \sqrt[4]{2^4 a^4 a^2 b^4}$

$= 2ab\sqrt[4]{a^2}$ → $(a^2)^{\frac{1}{4}} = \sqrt{a}$

$= a^{\frac{2}{4}} = a^{\frac{1}{2}}$

$(a^5)^{\frac{1}{10}}$

2. Express in simplest form, $\sqrt{-18} - \sqrt{-8}$.

$i\sqrt{18} - i\sqrt{8}$

$\sqrt{9}\cdot\sqrt{2}$ $\quad \sqrt{4}\sqrt{2}$

$3i\sqrt{2} - 2i\sqrt{2}$

$i\sqrt{2}$

3. Evaluate $i^{12} - i^{13} + i^{14}$

$\sqrt[4]{12}$

3 $\quad 1 - i - 1$

$-i$

$i^n \rightarrow \frac{n}{4}$

.0 $\quad i^0 = 1$

.25 $\quad i^1 = i$

.5 $\quad i^2 = -1$

.75 $\quad i^3 = -i$

$$i^{2015} + i^{2016} - i^{2017}$$

$$= i^{3} + 1 - i^{1}$$

$$= -i + 1 - i$$

$$= -2i + 1$$

expression $\dfrac{3x^{-4}y^{5}}{(2x^{3}y^{-7})^{-2}}$ and write the answer using only positive exponen

$$= \frac{3x^{4}y^{5}}{2^{-2}x^{-6}y^{14}} = \frac{3\,y^{5}\,2^{2}\,x^{6}\,x^{2}}{x^{4}\,y^{14}\,y^{9}}$$

$$= \boxed{\frac{12x^{2}}{y^{9}}}$$