C11 - 6.1 - Simplifying Rationals Notes

Simplify.

$\frac{2}{4} = \frac{2 \div 2}{4 \div 2} = \frac{1}{2}$

$$\frac{2}{4} = \frac{\overset{1}{\cancel{2}}}{\cancel{2} \times 2} = \frac{1}{2}$$

$\frac{6x^2}{2x} = \frac{6 \times x \times \cancel{x}}{2 \times \cancel{x}} = 3x$

$\frac{2x+4}{x+2} = \frac{2(x+\cancel{2})}{\cancel{x+2}} = 2$ Factor, Simplify.

$\frac{x^2+5x+6}{x+3} = \frac{(x+2)(\cancel{x+3})}{\cancel{x+3}} = (x+2)$

$\frac{x+3}{x^2-9} = \frac{\cancel{x+3}}{(\cancel{x+3})(x-3)} = \frac{1}{x-3}$

$\frac{1}{2-x} = \frac{1}{-(x-2)} = \frac{-1}{x-2}$

$2-x$
$-(-2+x)$ $GCF = -1$ OR $2-x$
$-(x-2)$ Rearrange order of terms $-(x-2)$

$\frac{x-4}{4-x} = \frac{x-4}{-(-4+x)} = \frac{x-4}{-(x-4)} = -1$

$\frac{x^2-3x-4}{x^2-1} = \frac{(x-4)(\cancel{x+1})}{(x-1)(\cancel{x+1})} = \frac{x-4}{x-1}$

$\frac{x^2-5x+6}{x+2} = \frac{(x-2)(x-3)}{x+2}$ Cannot Simplify