

Algebra II

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(20) $\frac{5x}{x^2-x-6} + \frac{4}{x^2+4x+4}$ Original Problem

$\frac{5x}{(x-3)(x+2)} + \frac{4}{(x+2)(x+2)}$ Factor out denominators

$\frac{5x}{(x+2)(x-3)(x+2)} + \frac{4}{(x+2)(x+2)(x-3)}$ Make denominators the same.

$\frac{5x(x+2)}{(x+2)(x-3)(x+2)} + \frac{4(x-3)}{(x+2)(x+2)(x-3)}$ Do the same to numerator as the denominator.

$\frac{5x^2+10x}{(x+2)(x+2)(x-3)} + \frac{4x-12}{(x+2)(x+2)(x-3)}$ Distribute numerators.

$\frac{5x^2+14x-12}{(x+2)(x+2)(x-3)}$ Add the numerators

$x+2=0, x+2=0, x-3=0$ Set denominators equal to zero.
 $x=-2, x=-2, x=3$ Solve.

$x \neq -2, 3$ State these restrictions.

I think my answer is correct because I went through all the correct steps and double checked.