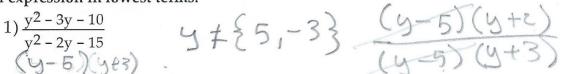Name __Key_____   Score _____

Find any values of the variable for which the rational expression is undefined. Express the rational expression in lowest terms.

1) $\dfrac{y^2 - 3y - 10}{y^2 - 2y - 15}$ $y \neq \{5, -3\}$ $\dfrac{(y-5)(y+2)}{(y-5)(y+3)}$

$(y-5)(y+3)$

Multiply or divide as indicated. Write the answer in lowest terms.

2) $\dfrac{2t^2 - 13t - 24}{3t^2 - 2t - 5} \div \dfrac{t^2 - 2t - 48}{3t^2 + 13t - 30}$ $2t^2 - 16t + 3t + 24$

$\dfrac{(2t+3)(t-8)}{(3t-5)(t+1)} \cdot \dfrac{(3t-5)(t+6)}{(t-8)(t+6)} = \dfrac{(2t+3)(t+6)}{3t-5}$

Add or subtract as indicated. Write the answer in lowest terms.

3) $\dfrac{2}{15x} - \dfrac{4}{21x^2}$ $3 \cdot 5 \cdot x$ $3 \cdot 7 \cdot x \cdot x$

$\dfrac{2}{15x} \cdot \dfrac{7x}{7x} - \dfrac{4}{21x^2} \cdot \dfrac{5}{5} = \dfrac{14x - 20}{105x^2}$ 3   x   7   5   x

4) Add or subtract as indicated. Write the answer in lowest terms.

$\dfrac{2}{y^2 - 3y + 2} + \dfrac{7}{y^2 - 1}$

$\dfrac{2}{(y-1)(y-2)} + \dfrac{7}{(y-1)(y+1)}$

$\dfrac{2(y+1) + 7(y-2)}{(y-1)(y-2)(y+1)} = \dfrac{2y+2+7y-14}{(y-1)(y-2)(y+1)} = \dfrac{9y-12}{(y-1)(y-2)(y+1)}$

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