

## WARMUP

1) Multiply:  $\frac{x^2+7x+12}{x^2-2x-15} \cdot \frac{x^2-3x-10}{x^2-3x-28} = \frac{\cancel{(x+3)}\cancel{(x+4)}}{\cancel{(x-5)}\cancel{(x+3)}} \cdot \frac{\cancel{(x-5)}\cancel{(x+2)}}{\cancel{(x-7)}\cancel{(x+1)}}$

$\frac{\overset{12}{\cancel{3}}\cancel{4}}{\overset{-15}{\cancel{-5}}\cancel{-2}} \cdot \frac{\overset{-10}{\cancel{-5}}\cancel{2}}{\overset{-28}{\cancel{-7}}\cancel{4}} = \frac{x+2}{x-7}$

2) Divide:  $\frac{3}{10} \div \frac{9}{20}$

$= \frac{1}{\cancel{3}} \cdot \frac{20}{\cancel{9}_3} = \frac{2}{3}$

## Section 7.2 Continued

$$\frac{P}{Q} \div \frac{R}{S} = \frac{P}{Q} \cdot \frac{S}{R}$$

ex:  $(x+5) \div \frac{x-2}{x+9} = \frac{x+5}{1} \cdot \frac{x+9}{x-2}$

$$= \frac{(x+5)(x+9)}{x-2}$$

ex:  $\frac{x^2+5x+6}{x^2-25} \div \frac{x+2}{x+5} = \frac{\cancel{(x+2)}\cancel{(x+3)}}{\cancel{(x+5)}\cancel{(x-5)}} \cdot \frac{\cancel{x+5}}{\cancel{x+2}}$

$$= \frac{x+3}{x-5}$$

$$\underline{\text{ex:}} \quad \frac{y^2+3y+2}{y^2+1} \div \left( \frac{5y^2+10y}{1} \right)$$

$$\frac{y^2+3y+2}{y^2+1} \cdot \frac{1}{5y^2+10y}$$

$$\frac{(y+1)\cancel{(y+2)}}{y^2+1} \cdot \frac{1}{\underline{5y}\cancel{(y+2)}}$$

$$\frac{y+1}{5y(y^2+1)}$$

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33-59 odd

$$39) \quad \frac{x+1}{3} \div \frac{3x+3}{7} = \frac{x+1}{3} \cdot \frac{7}{3x+3}$$

$$= \frac{\cancel{x+1}}{3} \cdot \frac{7}{3\cancel{(x+1)}}$$

$$= \frac{7}{9}$$

$$43) \quad \frac{x^2-4}{x} \div \frac{x+2}{x-2} = \frac{\cancel{(x+2)}(x-2)}{x} \cdot \frac{x-2}{\cancel{x+2}}$$

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