

## Ch 8 Quiz Review Topics

8.1 → Direct / Inverse / Joint  
↳  $y = ax$  /  $y = \frac{a}{x}$  /  $z = axy$

8.4 → Simp fractions  
↳ Mult / Div of fractions  
↳ FACTOR!!!

8.5 → Add/Sub fractions  
↳ LCD

↳ complex fractions (ie.  $\frac{\frac{x}{3} + 5}{x - \frac{2}{3}}$ )

8.6 → Solving fraction equations

↳ cross-mult  $\left( \frac{x}{x+3} = \frac{7}{x-2} \right)$

↳ using the LCD

$$y = 2x + 3$$

direct  
 $y = ax$

neither

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$$y = \frac{x}{3} \rightarrow y = \frac{1}{3}x$$

$y = ax$  direct

x	2	5	8	15
y	60	24	15	8

Inverse

$$y = ax$$

$$\frac{60}{2} = \frac{a(2)}{2}$$

$$30 = a$$

$$\frac{24}{5} = \frac{a(5)}{5}$$

$$a = 24$$

$$y = \frac{a}{x}$$

$$2 \cdot 60 = \frac{a}{2} \cdot 2$$

$$a = 120$$

$$5 \cdot 24 = \frac{a}{5} \cdot 5$$

$$a = 120$$

$$\frac{1}{x+4} ; \frac{3x}{2x-3} ; \frac{2x-5}{x^2+x-12}$$

$(x+4)$        $(2x-3)$        $(x+4)$   $(x-3)$

LCD:

$$(x+4)(2x-3)(x-3)$$

$$\frac{\frac{1}{2} + \frac{2}{x-6}}{\frac{3x-6}{x^2-12x+36}}$$

$$\frac{(x-6) \frac{1}{2} + \frac{2(2)}{(x-6)(2)}}{(x-6)(2)} = \frac{x-6+4}{2(x-6)} = \frac{x-2}{2(x-6)}$$

$$\frac{\frac{x-2}{2(x-6)}}{\frac{3x-6}{x^2-12x+36}} = \frac{(x-2)(x^2-12x+36)}{2(x-6)(3x-6)}$$

$$\frac{\cancel{(x-2)}\cancel{(x-6)}\cancel{(x-6)}}{2\cancel{(x-6)}(3)\cancel{(x-2)}} = \boxed{\frac{x-6}{6}}$$