

\* Simplify 
$$\frac{\frac{m}{2} + \frac{2m}{3}}{\frac{1}{m} - \frac{m}{2}}$$

by multiply numerator and denominator by the LCM of all denominators

$$\frac{\left(\frac{m}{2}\right) + \left(\frac{2m}{3}\right) (6m)}{\left(\frac{1}{m}\right) - \left(\frac{m}{2}\right) (6m)}$$

LCM of 2, 3, m, and 2  
 LCM  $2 \cdot 3 \cdot m$

$$\frac{3}{6m} \cdot \frac{m}{2} + \frac{2}{6m} \cdot \frac{2m}{3}$$

$$\frac{6m \cdot \frac{1}{m}}{1} - \frac{3 \cdot 6m \cdot \frac{m}{2}}{1}$$

$$3m^2 + 4m^2$$

factor to reduce

$$6 - 3m^2$$

$$\frac{7m^2}{3(2-m^2)}$$

cannot cancel  $m^2$   
 (Not a factor of denom)

$$\frac{7m^2}{6-3m^2}$$