

Name \_\_\_\_\_ Class \_\_\_\_\_ Date \_\_\_\_\_

## The Mole: Multi Step Conversions: Quiz 3b

Make sure to **SHOW ALL WORK** and  
**INCLUDE UNITS!**

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1. A *triatomic* ( $X_3$ ) element was discovered on the planet Chemisfun. If  $2.27 \times 10^{22}$  molecules of the element have a mass of 30.8 g, what is the element's **atomic mass** in g/mol?

Answers:

*3 atoms = 1 molec*

$$\frac{30.8 \text{ g}}{2.27 \times 10^{22} \text{ molec}} \times \frac{1 \text{ molec}}{3 \text{ atoms}} \times \frac{6.02 \times 10^{23} \text{ atoms}}{1 \text{ mol}} = 2.72 \times 10^2 \text{ g/mol}$$