QUIZ: 5-STEPS OF STOICHIOMETRY Name _____

Per ____ Date _____

Write the instructions for each step in the box labeled for that step. Show how to do each step in the box labeled "Do step N here." Make certain EACH VALUE give the numerals, units, and chemical. Use the proper designation for the STATE of each chemical in the balanced equation.

Solid carbon combines with dioxygen gas to make gaseous carbon monoxide. How many grams of carbon monoxide can be made from 11.2 L of dioxygen (measured at STP)?

Atomic masses: *C = 12.0* *O = 16.0*

Conversion factors: $\frac{\text{(PT) g chemical}}{\text{1 mol chemical}}$ $\frac{\text{22.4 L gas}}{\text{1 mol gas}}$ $\frac{6.02 \times 10^{23} \text{ molecules chemical}}{\text{1 mol chemical}}$

Write STEP 1 in this box, then SHOW how to DO STEP 1 in the box BELOW								
STEP 1								
STEP 2								
Write STEP 2 in this box, then SHOW how to DO STEP 2 in the box ABOVE.								
Write STEP 3 in this box, then SHOW how to do STEP 3 in the boxes below			Write STEP 4 in this box, then add the factor for step 4 below			Write STEP 5 in this box, then add the factor for step 5 below		
	X			X			X	
ANSWER (use correct sig figs, unit, and chemical).								

QUIZ: 5-STEPS OF STOICHIOMETRY Name _____

Per ____ Date _____

Write the instructions for each step in the box labeled for that step. Show how to do each step in the box labeled "Do step N here." Make certain EACH VALUE give the numerals, units, and chemical. Use the proper designation for the STATE of each chemical in the balanced equation.

Dihydrogen gas combines with dioxygen gas to make liquid water. How many liters of dioxygen (measured at STP) are needed to make 27.0 g of water?

Atomic masses: *H = 1.00* *O = 16.0*

Conversion factors: $\frac{\text{(PT) g chemical}}{\text{1 mol chemical}}$ $\frac{\text{22.4 L gas}}{\text{1 mol gas}}$ $\frac{\text{6.02 x } 10^{23} \text{ molecules chemical}}{\text{1 mol chemical}}$

Write STEP 1 in this box, then SHOW how to DO STEP 1 in the box BELOW								
STEP 1								
STEP 2								
Write STEP 2 in this box, then SHOW how to DO STEP 2 in the box ABOVE.								
Write STEP 3 in this box, then SHOW how to do STEP 3 in the boxes below			Write STEP 4 in this box, then add the factor for step 4 below			Write STEP 5 in this box, then add the factor for step 5 below		
	X			X			X	
ANSWER (use correct sig figs, unit, and chemical).								

Write STEP 1 Balance chemical equation							
STEP 1	$2\ C\ (s) + O_2\ (g) \longrightarrow 2\ CO\ (g)$						
STEP 2	11.2 L		g?				
Write STEP 2	Identify unknown and given						
Write STEP 3 in this box, Change given to moles			Write STEP 4 in this box, Multiply by eqn. ratio: unknown / given			Write STEP 5 in this box, Change unknown moles to lab measure	
$11.2\ L\ O_2$	X	$\frac{1\ mol\ O_2}{22.4\ L\ O_2}$	X	$\frac{O_2}{2CO}$		X	$\frac{28.0\ g\ CO}{1\ mol\ CO}$
ANSWER (use correct sig figs, unit, and chemical).						7.00 g CO	

Write STEP 1 **Balance chemical equation**							
STEP 1	$2\ H_2\ (g) + O_2\ (g) \longrightarrow 2\ H_2O\ (l)$						
STEP 2	L?		27.0 g				
Write STEP 2	Identify unknown and given						
Write STEP 3 in this box, Change given to moles			Write STEP 4 in this box, Multiply by eqn. ratio: unknown / given			Write STEP 5 in this box, Change unknown moles to lab measure	
$27.0 g H_2O$	X	$\frac{1\ mol\ H_2O}{18.0 g H_2O}$	X	$\frac{O_2}{2\ H_2O}$		X	$\frac{22.4\ L\ O_2}{1\ mol\ O_2}$
ANSWER (use correct sig figs, unit, and chemical).						$5.60\ L\ O_2$	

QUIZ: 5-STEPS OF STOICHIOMETRY Name _____

MAKEUP VERSION Per ____ Date _____

Write the instructions for each step in the box labeled for that step. Show how to do each step in the box labeled "Do step N here." Make certain EACH VALUE give the numerals, units, and chemical. Use the proper designation for the STATE of each chemical in the balanced equation.

When heated, calcium carbon ate decomposes to calcium oxide and carbon dioxide. How many liters of carbon dioxide (measured at RTP) can be made from 25.0 g of calcium carbonate?

Atomic masses: *C = 12.00* *O = 16.0* *Ca = 40.0*

Conversion factors: $\frac{\text{(PT) g chemical}}{\text{1 mol chemical}}$ $\frac{\text{22.4 L gas}}{\text{1 mol gas}}$ $\frac{6.02 \times 10^{23}\ \text{molecules chemical}}{\text{1 mol chemical}}$

Write STEP 1 in this box, then SHOW how to DO STEP 1 in the box BELOW								
STEP 1								
STEP 2								
Write STEP 2 in this box, then SHOW how to DO STEP 2 in the box ABOVE.								
Write STEP 3 in this box, then SHOW how to do STEP 3 in the boxes below			Write STEP 4 in this box, then add the factor for step 4 below			Write STEP 5 in this box, then add the factor for step 5 below		
	X			X			X	
ANSWER (use correct sig figs, unit, and chemical).								

ANSWER TO MAKEUP:

6.10 L CaO