

**Chemistry 12**  
**Worksheet 2-2**  
**LeChatelier's Principle**

KEY

KEY

TOTAL = 70  
marks.

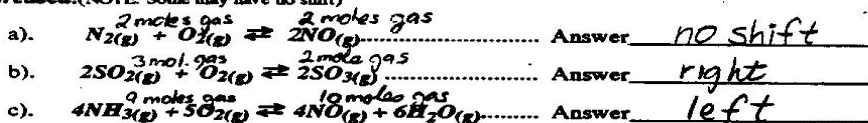
①

1. In order to decide what effect a *change in total pressure* will have on an equilibrium system with gases, what is the first thing you should do when given the balanced equation?

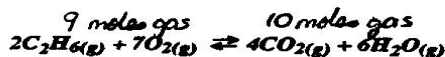
- Add up the moles of gas on each side of the equation

③

2. Predict which way the following equilibrium systems will shift when the *total pressure* is increased. (NOTE: Some may have no shift)



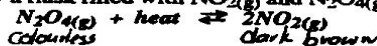
3. Which way will the following equilibrium shift if the *total pressure* on the system is decreased?



It will shift right (more moles) to counteract the decrease in pressure

Answer right

4. Explain why a flask filled with  $NO_2(g)$  and  $N_2O_4(g)$  will get darker when heated. Use the equation:



- heating will cause the equil<sup>m</sup> to shift right.

This will produce more  $NO_2$  which is dark brown. Hence the colour will get darker.

5. State Le Chatelier's Principle.

When a stress is applied to a system at equilibrium, the equil<sup>m</sup> will shift (left or right) so as to counteract the imposed stress