



LE CHATELIER'S PRINCIPLE 1

1)

Equilibrium	Energy change (forward reaction)	Increase temperature			Increase pressure		
		moves left	no move	move right	moves left	no move	move right
$A(g) + 2 B(g) \rightleftharpoons X(g) + Z(g)$	exothermic	✓					✓
$P(g) + Q(g) \rightleftharpoons 2 X(g)$	endothermic			✓		✓	
$A_2(g) \rightleftharpoons X(g) + Z(g)$	exothermic	✓			✓		
$2 P(g) \rightleftharpoons 2 C(g) + D(g)$	endothermic			✓	✓		

- 2) a) i) increases
ii) equilibrium position shifts right, in endothermic direction to lower the temperature
b) i) decreases
ii) equilibrium position shifts left, to side with less gas molecules to lower the pressure
- 3) a) i) decreases
ii) equilibrium position shifts left, in endothermic direction to lower the temperature
b) i) no effect
ii) same number of gas molecules on both sides of equation