Guess which of the following dates is “mole” day

1. March 14
2. October 23
3. January 1
4. June 10

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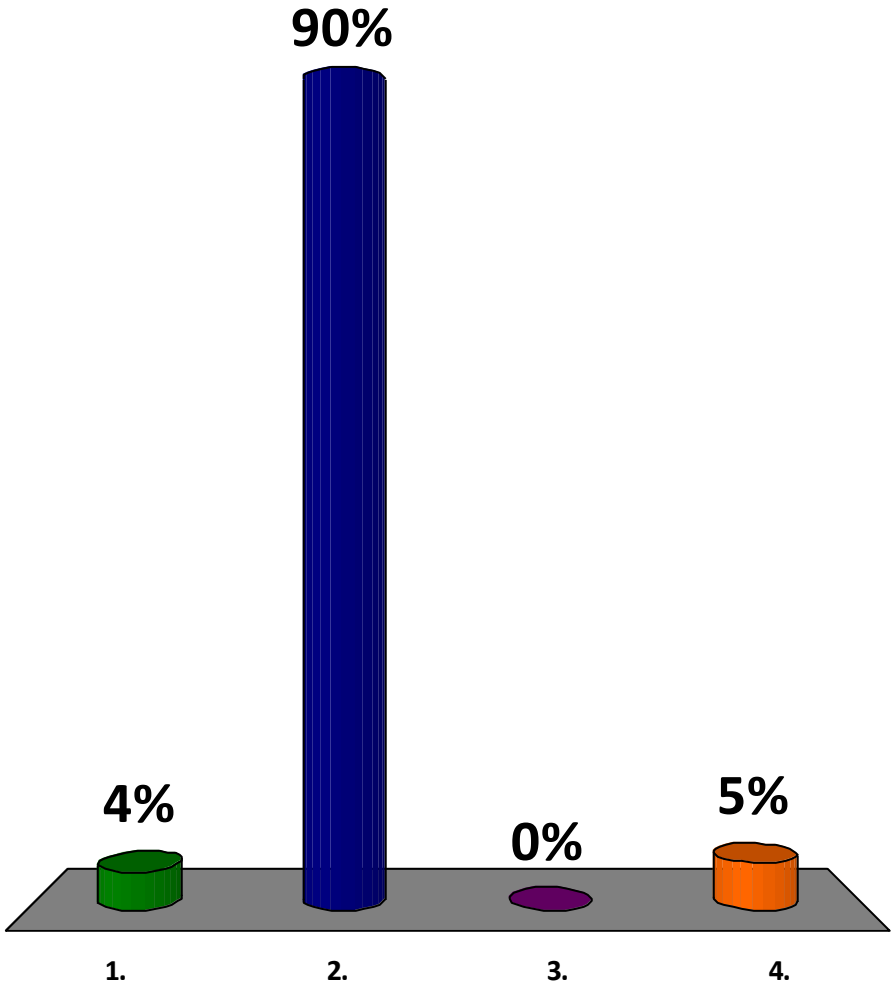

If Q decreases by a factor of 2, and Q is less than K, then ΔG is

1. also reduced by half.
2. a negative value.
3. a positive value.
4. zero.

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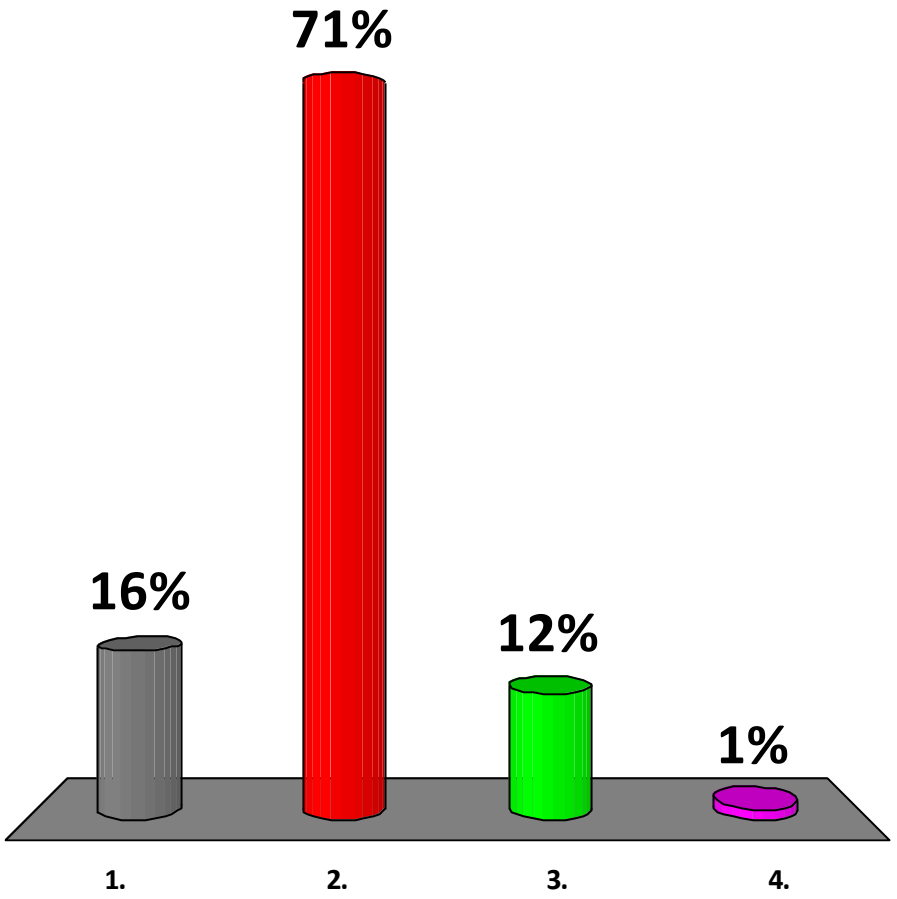

For $2P_2(g) \rightleftharpoons P_4(g)$

What happens if an inert gas is added to the container increasing the total pressure at constant temperature?

1. The reaction shifts right (toward products).
2. The reaction shifts left (toward reactants).
3. Nothing.

For $2P_2(g) \rightleftharpoons P_4(g)$

What happens if an inert gas is added to the container <u>increasing the total pressure</u> at constant temperature?

42% 1. The reaction shifts right (toward products).

9% 2. The reaction shifts left (toward reactants).

48% ✓ 3. Nothing.

For $2P_2(g) \rightleftharpoons P_4(g)$

What happens if an inert gas is added to the container but the total pressure and temperature are kept constant?

1. The reaction shifts right (toward products).
2. The reaction shifts left (toward reactants).
3. Nothing.

For $2P_2(g) \rightleftharpoons P_4(g)$

What happens if an inert gas is added to the container but the <u>total pressure and temperature are kept constant</u>?

36% 1. The reaction shifts right (toward products).

57% 2. The reaction shifts left (toward reactants).

7% 3. Nothing.

$$\mathbf{2SO_2\,(g) + O_2 \rightleftharpoons 2SO_3\,(g)}$$

$\Delta H° = -197.78$ kJ/mol of O_2

If heat is added, which direction will the reaction go?

1. The reaction will shift to the right (toward products).
2. The reaction will shift to the left (toward reactants).
3. There will be no shift.

$$2SO_2\,(g) + O_2 \rightleftharpoons 2SO_3\,(g)$$

$\Delta H° = -197.78$ kJ/mol of O_2

If heat is added, which direction will the reaction go?

22% 1. The reaction will shift to the right (toward products).

77% 2. The reaction will shift to the left (toward reactants).

1% 3. There will be no shift.

Which of the following are true for a reaction where $\Delta H > 0$?

1. The reaction is endothermic.
2. The equilibrium constant is larger at higher temperatures.
3. When $T2 < T1$, $K1 > K2$.
4. There are fewer products at equilibrium when the temperature is decreased.
5. 1, 2, and 3 are true.
6. All of the above are true.

Which of the following are true for a reaction where $\Delta H > 0$?

7% 1. The reaction is endothermic.

2% 2. The equilibrium constant is larger at higher temperatures.

2% 3. When T2 < T1, K1 > K2.

3% 4. There are fewer products at equilibrium when the temperature is decreased.

28% 5. 1, 2, and 3 are true.

58% ✓ 6. All of the above are true.

Pick the answer with the correct significant figures for log (212.) =

1. 2.
2. 2.3
3. 2.33
4. 2.326
5. 2.3263

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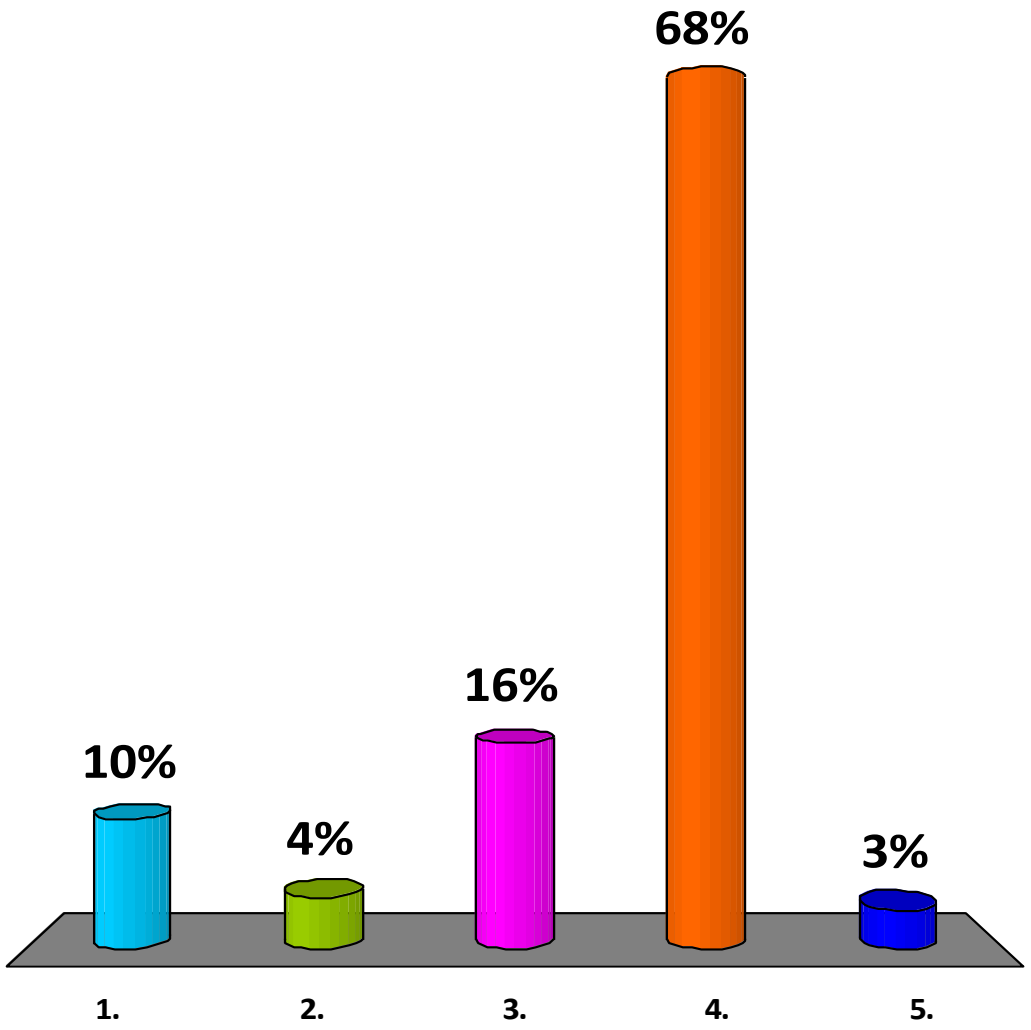

5.111 Principles of Chemical Science
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