

7. For a chemical reaction it is usually found that the reaction rate is faster at higher temperature. The rate increases because

- (a) the concentrations of reactant increase
 - (b) more reactants collide with energy equal to or greater than the activation energy
 - (c) the concentrations of products increase
 - (d) the volume expands and there is more room for new compounds (products) to form
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8. Which answer is closest to the true value of the expression?

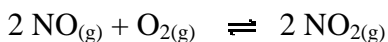
$$(9.1 \times 10^4)(1.1 \times 10^{-5})(\log 10^{-13})(1000)$$

- (a) 1.3
 - (b) 13000
 - (c) -13000
 - (d) 1.3×10^{-11}
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9. Which substance does not obey the Lewis octet rule?

- (a) N₂
 - (b) NO
 - (c) CF₄
 - (d) Ar
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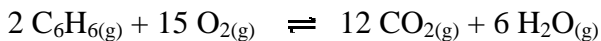
10. For the reaction at equilibrium:



Which change will increase the amount of NO_{2(g)}?

- (a) remove NO gas
 - (b) add NO gas
 - (c) add a catalyst
 - (d) remove O₂ gas
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11. For the reaction



The expression for the equilibrium constant, K, is

- (a) $\frac{[\text{CO}_2][\text{H}_2\text{O}]}{[\text{C}_6\text{H}_6][\text{O}_2]}$
 - (b) $\frac{[\text{CO}_2]^{12}[\text{H}_2\text{O}]^6}{[\text{C}_6\text{H}_6]^2[\text{O}_2]^{15}}$
 - (c) $\frac{[\text{C}_6\text{H}_6][\text{O}_2]}{[\text{CO}_2][\text{H}_2\text{O}]}$
 - (d) $\frac{[12\text{CO}_2][6\text{H}_2\text{O}]}{[2\text{C}_6\text{H}_6][15\text{O}_2]}$
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Answers: 1d; 2a; 3d; 4c; 5b; 6c; 7b; 8c; 9b; 10b; 11b