

## Answer on Question #58034, Chemistry / General Chemistry

1. Suppose that the reaction A to B has a rate= $k[A]^1$ . How would the reaction rate change if

[A] was tripled?

[A] was halved?

2. Suppose that the reaction 2A to B has a Rate= $k[A]^2$ . How would the reaction rate change if

[A] was tripled ?

[A] was halved?

3. Suppose that the reaction A+B to C has a rate law of Rate= $k[A]^1[B]^1$ . How would the reaction rate change if

[A] was doubled

[A] and [B] each doubled

[A] doubled and [B] Halved

### Solution:

1. If [A] was tripled, then a rate =  $k(3[A])^1 = 3 k[A]^1$  .

Answer.The rate is tripled.

If [A] was halved, then a rate =  $k(0.5[A])^1 = 0.5 k[A]^1$  .

Answer.The rate is halved.

2. If [A] was tripled, then a rate =  $k(3[A])^2 = 9 k[A]^1$  .

Answer.The rate increased 4 times.

If [A] was halved, then a rate =  $k(0.5[A])^2 = 0.25 k[A]^1$  .

Answer.The rate fell in 4 times.

3. If [A] was doubled, then a rate =  $k(2[A])^1[B]^1 = 2 k[A]^1[B]^1$ .

Answer.The rate is doubled.

If [A] and [B] each doubled, then a rate =  $k(2[A])^1 (2[B])^1 = 4 k[A]^1[B]^1$  .

**Answer**.The rate increased 4 times.

If [A] doubled and [B] halved, then a rate =  $k(2[A])^1 (0.5[B])^1 = k[A]^1[B]^1$

**Answer**.The rate is constant.