This book has permission to use the "N&K method of COLORS".

31) Question: At his best pace, John can put in at most 10 dozen rivets per hour. At his worst pace, he can put in at least 8 dozen rivets per hour. John has to put in a total of 120 dozen rivets. What is a possible amount of time, in hours, it could take him, to put in those rivets?

For speed, while solving something similar, only THINK the words in blue; WRITE only the words in other COLORS.

Solution:

Given 1) At his best pace, John can put in at most . . . . 10 dozen rivets per hour.
2) At his worst pace, he can put in at least . . . . 8 dozen rivets per hour.
3) John has to put in a . . . . . total of 120 dozen rivets.
4) What is a possible amount of time, in hours, it could take him, to put in those rivets?

Road Map of Solution:

First Step: Find the time taken by John to putting in those rivets, at his best pace.
Second Step: Find the time taken by John to putting in those rivets, at his worst pace.
Third: Step: Any number in the above range is a correct answer.

First Step: Find the time taken by John to putting in those rivets, at his best pace.

$$= \frac{\text{total number of rivets}}{\text{number of rivets put in per hour at best pace}}$$

$$= \frac{120 \text{ dozen}}{10 \frac{\text{dozen}}{\text{hour}}}$$

$$= \frac{120 \cancel{\text{ dozen}}}{10 \frac{\cancel{\text{dozen}}}{\text{hour}}}$$

$$= \frac{12 \times \text{hour}}{1}$$

$$= 12 \text{ hours}$$

Second Step: Find the time taken by John to putting in those rivets, at his worst pace.

$$= \frac{\text{total number of rivets}}{\text{number of rivets put in per hour at worst pace}}$$

$$= \frac{120 \text{ dozen}}{8 \frac{\text{dozen}}{\text{hour}}}$$

$$= \frac{120 \cancel{\text{ dozen}}}{8 \frac{\cancel{\text{dozen}}}{\text{hour}}}$$

$$= \frac{15 \times \text{hour}}{1}$$

$$= 15 \text{ hours}$$

Third: Step: Any number in the above range (12 to 15 hours) is a correct answer. *Answer*