Answer on Question #44782 – Programming - C#

Worker A can do a job in 15 days while worker B can do the same job in 20 days. Write a program to calculate the total number of days required to finish the work if both the workers work simultaneously.

Solution:

$t_1 = 15$ days $-$ time that need worker A to finish job;
$t_2 = 20$ days $-$ time that need worker B to finish job;
T
$-$ number of days required to finish the work if both the workers work simultaneously

A's 1 hour's work $= \frac{1}{t_1}$

B's 1 hour's work $= \frac{1}{t_2}$

(A + B)'s 1 hour's work:

$$t = \frac{1}{t_1} + \frac{1}{t_2}$$

Both A and B will finish the work in time

$$T = \frac{1}{t} = \frac{1}{\frac{1}{t_1} + \frac{1}{t_2}} = \frac{1}{\frac{1}{15} + \frac{1}{20}} = 8.57\text{day}$$

Code:

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;

namespace Workers
{
   class Program
   {
      static void Main(string[] args)
      {
         Console.WriteLine("How many days Worker A need to finish job?");
         double time1 = Double.Parse(Console.ReadLine());

         Console.WriteLine("How many days Worker B need to finish job?");
         double time2 = Double.Parse(Console.ReadLine());

         double timeTogether = 1 / (1 / time1 + 1 / time2);
```

```
            Console.WriteLine("Number of days required to finish the work if both the
workers work simultaneously: {0}", timeTogether);
            Console.ReadLine();
        }
    }
}
```