Exercise 1.1

Choose the correct answer from the given four options in the following questions:

Question 5:

The largest number which divides 70 and 125, leaving remainders 5 and 8 respectively, is

(A) 13 (B) 65 (C) 875 (D) 1750

Answer 5:

(A) 13

Solution:

Since, 5 and 8 are the remainders of 70 and 125, respectively.

Thus, after subtracting these remainders from the numbers, we have the numbers 65 = (70 – 5),

$117 = (125 - 8)$, which is divisible by the required number.

Now, required number = HCF of 65, 117 [Since we need the largest number]

For this, $117 = 65 \times 1 + 52$ [∵ dividend = divisor × quotient + remainder]

$\Longrightarrow 65 = 52 \times 1 + 13$

$\Longrightarrow 52 = 13 \times 4 + 0$

∴ HCF = 13

Hence, 13 is the largest number which divides 70 and 125, leaving remainders 5 and 8.