The ratio of the son's age to the father's age is 1 ꞉ 4. The product of their ages is 196. The ratio of their ages after 5 years will be?

A. 4 ꞉ 13
B. 3 ꞉ 10
C. 4 ꞉ 11
D. 5 ꞉ 14

Show Answer…
Correct Answer: C (4 ꞉ 11)

Explanation:

Math MCQ: Ratio of Ages After 5 Years
Let's solve the problem step by step.

Given:
The ratio of son's age to father's age = 1 ꞉ 4
The product of their ages = 196

Let "x" represent the age of the son, and "4x" represent the age of the father since the ratio of their ages is 1 ꞉ 4.

According to the given information, their ages' product is 196:

$\Rightarrow$ x × 4x = 196
$\Rightarrow$ $4x^2$ = 196
$\Rightarrow$ x^2 = 49 Taking the square root of both sides:
$\Rightarrow$ x = √49
$\Rightarrow$ x = 7

So, the present age of the son is 7 years, and the present age of the father is 4x =

The ratio of the son's age to the father's age is 1 ꞉ 4. The product of their ages is 196. The ratio of their ages after 5 years will be?

4 * 7 = 28 years.

Now, let's find their ages after 5 years:

⇒ Son's age after 5 years = 7 + 5 = 12 years
⇒ Father's age after 5 years = 28 + 5 = 33 years

The ratio of their ages after 5 years is:

⇒ Age of Son : Age of Father = 12 ꞉ 33

To simplify the ratio, we can divide both sides by their common factor, which is 3:

⇒ Age of Son : Age of Father = 4 ꞉ 11

Therefore, the ratio of **the son's age to the father's age after 5 years will be 4 ꞉ 11.**

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