Let two numbers have arithmetic mean 9 and geometric mean 4. Then these numbers are the roots of the quadratic equation

(a) $x^2 + 18x + 16 = 0$

(b) $x^2 - 18x - 16 = 0$

(c) $x^2 + 18x - 16 = 0$

(d) $x^2 - 18x + 16 = 0$

Solution:

Let m and n be the numbers.

$(m + n)/2 = 9$

$(m + n) = 18$

$\sqrt{(mn)} = 4$

$mn = 16$

So the equation is $x^2 -$ (sum of roots)$x +$ product $= 0$

$\Rightarrow x^2 - 18x + 16 = 0$

Hence option d is the answer.