



POP QUIZ

Simplify the equation of Index and Logarithmic



Choose the correct answer for the following solution of simplify index and logarithmic.

1 The solution for simplify

$$\frac{a^{10-5n}}{a^{3n} \times a^{4n+2}}$$

$$\begin{aligned} &= \frac{a^{10-5n}}{a^{3n+(4n+2)}} \\ &= \frac{a^{10-5n}}{a^{7n+2}} \\ &= a^{10-5n-(7n+2)} \\ &= a^{8-12n} \end{aligned}$$

a. True

b. False

2 The solution for simplify

$$4 - 2 \log_a 3 + \log_a 6$$

$$\begin{aligned} &= 4 \log_a a - 2 \log_a 3 + \log_a 6 \\ &= \log_a a^4 - \log_a 3^2 + \log_a 6 \\ &= \log_a \left(\frac{a^4 \times 6}{3^2} \right) \\ &= \log_a \left(\frac{2a^4}{3} \right) \end{aligned}$$

a. True

b. False

3 The solution for simplify

$$7^{2n-1} \times 343^{5n} \div 49^{3n-2}$$

$$\begin{aligned} &= 7^{2n-1} \times 7^{3(5n)} \div 7^{2(3n-2)} \\ &= 7^{2n-1} \times 7^{15n} \div 7^{6n-4} \\ &= 7^{2n-1+15n-6n-4} \\ &= 7^{11n-5} \end{aligned}$$

a. True

b. False

