

QUIZ
INDICES, SURDS AND LOGARITHMS

INSTRUCTION: Please answer all questions.

1. Simplify the following expression and write the answer in the box below.

(a) $\frac{(x^{m+n})^2 \cdot (x^{n+p})^2 \cdot (x^{p+m})^2}{(x^{mnp})^3}$

=

(b) $(\sqrt{a} + \sqrt{4b})(\sqrt{a} - 4\sqrt{b})$

=

m+n+p

1

2. Find the exact value without using calculator.

$\frac{2 + \log_7 49}{\frac{1}{2} \log_3 81} =$ _____

a-8b

2

3. Given that $(2 - a\sqrt{3})(5 + 4\sqrt{3}) = -2 + b\sqrt{3}$ where a and b are integers. Find the value of a and b .

$a =$, $b =$

3

4. Given that $p = \log_a 4$ and $q = \log_a 5$. Express $\log_a 100$ in terms of p and q . (*Use /)

pq^2 $p + 2q$ $p - 2q$ $2pq$

5. Match the following expression with the form 7^k .

(a) $(\sqrt[3]{7})^2$

$7^{\frac{5}{2}}$

(b) $\frac{1}{7\sqrt[3]{7}}$

$7^{\frac{2}{3}}$

(c) $7^2 \times \sqrt[4]{49}$

$7^{-\frac{4}{3}}$