

Quiz 1

This quiz is graded out of 9 marks. No books, watches, notes or cell phones are allowed. You must show all your work, the correct answer is worth 1 mark the remaining marks are given for the work. If you need more space for your answer use the back of the page.

Question 1. Simplify completely, expressing the answers with positive exponents only.

a. (1 mark) $(-2)^{-3} = \frac{-1}{8}$

b. (1 mark) $(-2)^4 = 16$

c. (1 mark) $-2^{-3} = -\frac{1}{8}$

d. (1 mark) $-2^4 = -16$

Question 2. (5 marks) Simplify completely, expressing the answers with positive exponents only.

$$\begin{aligned}
 \left(\frac{-8(xy)^{-3}z^7}{4y^2z^{-2}} \right)^{\frac{1}{2}} &= \left(\frac{-8x^{-3}y^{-3}z^7}{4y^2z^{-2}} \right)^{\frac{1}{2}} \\
 &= \left(\frac{-2y^{-5}z^2}{x^3} \right)^{\frac{1}{2}} \\
 &= \left(\frac{-2z^2}{y^5x^3} \right)^{\frac{1}{2}} \\
 &= \frac{(-2)^{\frac{1}{2}}(z^2)^{\frac{1}{2}}}{(y^5)^{\frac{1}{2}}(x^3)^{\frac{1}{2}}} \\
 &= \frac{4z^4}{y^{10}x^6}
 \end{aligned}$$