Laws of Exponents & Rational Exponents (Grade 10)

WORKSHEET

Name: ..... Class: .....

Date: .....

MARK ____ / 22

Answer all questions. Show all your working — marks are awarded for method as well as the final answer.

1 Simplify: $x^7 \times x^{-3}$ **(1)**

2 Simplify: $(2x^3)^4$ **(2)**

3 Calculate: 5^{-2} **(1)**

4 Calculate: $9^{\frac{1}{2}}$ **(1)**

5 Calculate: $8^{\frac{2}{3}}$ **(2)**

6 Calculate: $27^{\frac{2}{3}}$ **(2)**

7 Calculate: $16^{\frac{3}{4}}$ **(2)**

8 Calculate: $16^{-\frac{3}{4}}$ **(2)**

9 Simplify: $\frac{2^{x+3}}{2^{x}}$ **(2)**

10 Solve: $2^{x} = 64$ **(2)**

11 Solve: $3^{x+1} = 27$ **(2)**

12 Solve: $5^{2x} = 125$ **(3)**

TOTAL: 22 marks

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