WORKSHEET

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

Date: .....

MARK ____ / 23

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

1 Evaluate $\log_2 16$. *(evaluate)* (1)

2 Evaluate $\log_3 27$. *(evaluate)* (1)

3 Evaluate $\log_{10} 1\,000$. *(evaluate)* (1)

4 Write $5^3 = 125$ in log form. *(convert)* (1)

5 Write $\log_2 32 = 5$ in exponent form. *(convert)* (1)

6 Solve $\log_2 x = 5$. *(definition)* **(2)**

7 Write down the inverse of $f(x) = 3^x$ in the form $y = \ldots$ *(inverse)* **(2)**

8 State the domain and the range of $y = \log_2 x$. *(graph)* **(2)**

9 Money invested at 8% p.a. compound interest doubles after n years. Find n (2 dp). *(finance)* **(2)**

10 Solve $2^x = 20$ (2 dp). *(solve)* **(3)**

11 A machine bought for R$80\,000$ depreciates at 15% p.a. on the reducing balance. After how many full years will it first be worth less than R$30\,000$? **(4)**

12 Given $g(x) = 3^x$, write down $g^{-1}(x)$ and solve $g^{-1}(x) > 2$. **(3)**

TOTAL: 23 marks

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