

MARKS

NAME:

CLASS:

## FUNCTION & GRAPHS: EXPONENTIAL AND LOG

- 1 Find the range of  $e^{2-x} + 3$ .
- A  $(3, \infty)$     B  $(2, \infty)$     C  $[3, \infty)$     D  $(-\infty, 3)$
- 2 Find the range  $f(x) = -3^{x-5}$ .
- A  $(5, \infty)$     B  $(-\infty, 0]$     C  $[5, \infty)$     D  $(-\infty, 0)$
- 3 Find the domain  $f(x) = \log(7-2x)$ .
- A  $\left(-\infty, \frac{7}{2}\right]$     B  $\left(\frac{7}{2}, \infty\right)$     C  $\left(-\infty, \frac{7}{2}\right)$     D  $\left[\frac{7}{2}, \infty\right)$
- 4 Find the inverse and domain of the inverse of the function  $f(x) = e^{2x} + 1$ .
- A  $f^{-1}(x) = \frac{1}{2} \ln(x+1), Df^{-1} = (1, \infty)$     B  $f^{-1}(x) = \frac{1}{2} \ln(x-1), Df^{-1} = (1, \infty)$
- C  $f^{-1}(x) = \frac{1}{2} \ln(2x-1), Df^{-1} = \left(\frac{1}{2}, \infty\right)$     D  $f^{-1}(x) = \ln(2x-1), Df^{-1} = \left(\frac{1}{2}, \infty\right)$
- 5 Find the domain and range of  $f(x) = 3 \ln\left(\frac{x}{2}\right)$ .
- A  $D_f = (0, \infty), R_f = \mathbb{R}$     B  $D_f = (2, \infty), R_f = \mathbb{R}$
- C  $D_f = \left(\frac{1}{2}, \infty\right), R_f = \mathbb{R}$     D  $D_f = \left(-\infty, \frac{1}{2}\right), R_f = \mathbb{R}$
- 6 Find the inverse and domain inverse of  $f(x) = \ln(3x+4)$
- A  $f^{-1}(x) = \frac{e^x - 4}{3}, Df^{-1} = (-\infty, \infty)$     B  $f^{-1}(x) = \frac{e^x + 4}{3}, Df^{-1} = (3, \infty)$
- C  $f^{-1}(x) = \frac{e^x - 1}{3}, Df^{-1} = \left(-\frac{1}{3}, \infty\right)$     D  $f^{-1}(x) = \frac{e^x - 3}{4}, Df^{-1} = (-\infty, \infty)$
- 7 Given that  $f(x) = 3 + 2^x$ . Find  $f^{-1}$ .
- A  $f^{-1}(x) = \ln(x+3)$     B  $f^{-1}(x) = \log_2(x-3)$     C  $f^{-1}(x) = \log_2(x+3)$     D  $f^{-1}(x) = \ln(x) - 3$

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