WORKSHEET

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

Date: .....

MARK ____ / 20

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

1 Determine the equation of h^{-1}, the inverse of $h(x) = 3x - 6$, in the form $y = \ldots$ **(2)**

2 Determine the inverse of $f(x) = 2x^2$. **(2)**

3 Is the inverse of $f(x) = 2x^2$ a function? Give a reason. **(2)**

4 Restrict the domain of $f(x) = 2x^2$ so that f^{-1} is a function. **(1)**

5 Determine the equation of k^{-1} if $k(x) = 2^x$. **(2)**

6 Write down the domain and range of k^{-1} if $k(x) = 2^x$. **(2)**

7 The graph of f^{-1} is the reflection of f in which line? **(1)**

8 The point $(2\ ;\ 7)$ lies on f. Write down a point on f^{-1}. **(1)**

9 State the definition of a function. **(2)**

10 Explain, using the definition, why the inverse of $f(x) = 3x^2$ is not a function unless the domain is restricted. **(3)**

11 Which line test tells you whether the INVERSE of a graph will be a function? **(2)**

TOTAL: 20 marks

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