Practice worksheet | Functions and graph sketching

# One-to-one functions

Name: _____ Date: _____

6 questions | 16 marks

**1.** Is $f(x) = x^2$ one-to-one on the real numbers? Justify your answer. [2 marks]

**2.** Show $f(x) = 3x - 7$ is one-to-one on the real numbers. [3 marks]

**3.** Is $f(x) = \frac{1}{x}$, $x \neq 0$, one-to-one? [3 marks]

**4.** Find two distinct inputs with the same output for $f(x) = x^3 - 3x$. [3 marks]

**5.** Give two maximal intervals on which $f(x) = (x-2)^2$ is one-to-one. [3 marks]

**6.** Explain why $f(x) = 2^x$ has at most one input for each output. [2 marks]