Practice worksheet | Proof and circle geometry

Statements, implication, converse and equivalence

Name: _____ Date: _____

6 questions | 14 marks

1. State the assumption and conclusion in: if an integer is divisible by 10, it is divisible by 5. [2 marks]

2. Prove that every multiple of 6 is a multiple of 3. [2 marks]

3. Write the converse of the claim in Question 2 and give a counterexample. [2 marks]

4. For real x, test both directions of $x = 2 \Rightarrow x^2 = 4$. [2 marks]

5. For real x, prove $x = 0 \Leftrightarrow x^2 = 0$. [3 marks]

6. Is "n is a multiple of 12" sufficient, necessary, both or neither for "n is a multiple of 4", on the integers? [3 marks]