**Part 1**: **Multiple Choice (20 marks)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 1. | What are the Non-permissible values for the following expression: | | | |
|  | a) |  | b) |  |
| c) |  | d) |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 2. | What is the exact value of ? | | | |
|  | a) |  | b) |  |
| c) |  | d) |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 3. | Simplify +sin | | | |
|  | a) |  | b) |  |
| c) |  | d) |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 4. | Simplify | | | |
|  | a) |  | b) |  |
| c) |  | d) |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 5. | If , find | | | |
|  | a) |  | b) |  |
| c) |  | d) |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 6. | Simplify completely + | | | |
|  | a) |  | b) |  |
| c) |  | d) |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 7. | What is the exact value of | | | |
|  | a) |  | b) |  |
| c) | 0 | d) | undefined |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 8. | Solve for *x*, | | | |
|  | a) |  | b) |  |
| c) |  | d) |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 9. | Solve for *x*, . | | | |
|  | a) |  | b) |  |
| c) |  | d) |  |

10. What is the simplified form of ?

a)  b) 

c)  d) 

**Part 2**: **Constructed Response**. Answer all of the following questions. Full credit will only be awarded for complete solutions. Use EXACT answers unless otherwise stated. (30 marks)

10. If where , and if where

then determine the exact value of sin(A – B). (5 marks)

11. Prove the following trigonometric identities:

A) (3 marks)

B)  (6 marks)

C) (6 marks)

12. Solve for (5 marks)

1. Solve each of the following for *x* where 

1. sin(3*x*)cos(*x*) – cos(3*x*)sin(*x*) = - 0.5 (5 marks)

***Math 3200 Information Sheet***

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