

## Elementary Linear Algebra - MATH 2250 - Quiz 9

Name:

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 The vectors  $(1, 0)$  and  $(0, 0)$  are dependent.  

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 The vectors  $(1, 0)$  and  $(0, 1)$  are dependent.  

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 The vectors  $(1, 0)$  and  $(0, 1)$  and  $(\pi, -\pi)$  are dependent.
2. The vectors  $v_1, v_2, \dots, v_n$  are independent if \_\_\_\_\_  
\_\_\_\_\_
3. Let  $A$  be an  $m \times n$  matrix with rank  $n$  whose columns are linearly dependent, then  $r \square n$ . (Fill the box with the best choice from  $<, =, >, \leq, \geq$ .)
4. What is a basis  $B$  for a vector space  $V$ ?