

King Fahd University of Petroleum and Minerals  
Department of Mathematical Sciences  
**Math 101.04 Quiz VIII Spring (042)**

ID #: \_\_\_\_\_ NAME: \_\_\_\_\_

Serial # \_\_\_\_\_ Section #: \_\_\_\_\_

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1. Ahmad is running at a constant rate of 10 km/hr. He crosses a point P leading north. Ten minutes later Bader running at a constant rate of 9 km/hr crosses the same point leading east. How fast is the distance between the runners changing 20 minutes after Ahmad crosses P?

2. Determine the points on the graph of the equation  $x^2 - xy + y^2 = 3$  where the tangent is horizontal.