## Mathematics II Midterm Exam (A)

رقم الجلوس ( ) سكشن ( ) مجموعة ( )	اسم الطالب:
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## Complete the following

- (2) When the axis transfer at (2,3) the equation of the circle  $x^2 + y^2 4x 6y 3 = 0$  becomes .....
- (3) When the axis rotate by an angle 45° the equation  $x^2 y^2 = 8$  becomes ......
- (4) The equation of the circle which center at (5,4) and touch x-axis is ......
- (5) The angle between the lines  $3x^2 + 8xy 3y^2 + 2x 4y + 12 = 0$  is.....
- (6) The equation of the bisectors for the angle between the lines  $3x^2 + 8xy 3y^2 = 0 \quad \text{is} \quad \dots$
- (7) The curve  $r = 2\cos\theta + \cos2\theta$  symmetric about .....
- (8) The equation  $(x^2 + y^2)^2 = 2a^2xy$  transfer to polar coordinates becomes
- (9) The equation of the straight line which intercept x-axis by 4 and y-axis by 5 is.....
- (11) If the equation of a circle is  $ax^2 + (2a-3)y^2 4x 1 = 0$  then its center is....
- (12) The equation of the circle whose its diameter is PQ, where P(2,-2), Q(-2,2) is