**ROTATION OF AXES HOMEWORK**

1. Identify each equation without completing the square
	1. $100x^{2}-7y^{2}+90y-368=0;$
	2. $9x^{2}+4y^{2}-36x+8y+31=0;$
2. Write each equation in terms of a rotated $x^{'}y^{'}-$system using $θ$ the angle of rotation. Write the equation involving $x^{'}$ and $y^{'}$ in standard form
	1. $xy=-4, θ=45°;$
	2. $x^{2}-4xy+y^{2}-3=0, θ=45°;$
3. Write the appropriate rotation formulas so that in a rotated system the equation has no $x^{'}y^{'}-$term
	1. $7x^{2}-6\sqrt{3}xy+13y^{2}-16=0;$
	2. $10x^{2}+24xy+17y^{2}-9=0;$
	3. $32x^{2}-48xy+18y^{2}-15x-20y=0;$
4. Rewrite the equation in a rotated $x^{'}y^{'}- $system without an $x^{'}y^{'}- $term.
	* + Use the appropriate rotation formulas from Exercises 15–26.
		+ Express the equation involving $x^{'}$ and $y^{'}$ in the standard form of a conic section.
		+ Use the rotated system to graph the equation
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	2. $10x^{2}+24xy+17y^{2}-9=0;$
	3. $32x^{2}-48xy+18y^{2}-15x-20y=0;$