Find $\frac{d^2y}{dx^2}$ for each of the following. Simplify your answer as much as possible. Show your work neatly organized.

1.
$$x^2 + y^2 = 25$$

2.
$$x^2 - 2y^2 = 7$$

$$3. \qquad 9x^2 + 4y^2 = 36$$

4.
$$y^2 - 2x - 2y = 1$$

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Find $\frac{d^2y}{dx^2}$ for each of the following. Simplify your answer as much as possible. Show your work neatly organized.

5.
$$x^3y^2 = 2$$

6.
$$x^2 + xy + y^2 = 10$$