

Differential Equations
Integrating Factors Worksheet

NAME:

Include any obscure integral formulas you use (and the number if you pull it from the list of numbered formulas). Circle your final answers. Show your work.

1. Write sentences to *support* (*not* just state) your conclusions. Check for linearity with both variables in place as the dependent variable.

Tell if the equation is separable, linear, exact, or has an integrating factor that is a function of x or y alone.

$$(2y^2x - y)dx + xdy = 0$$

2. Solve the equation. Do *not* forget additional solutions.

$$(2y^2 + 2y + 4x^2)dx + (2xy + x)dy = 0$$