Lecture 5:

<https://www.khanacademy.org/math/differential-equations/first-order-differential-equations/exact-equations/v/exact-equations-intuition-1-proofy>

And the relevant topics to the above link:

<https://www.khanacademy.org/math/differential-equations/first-order-differential-equations/exact-equations/v/exact-equations-intuition-2-proofy>

<https://www.khanacademy.org/math/differential-equations/first-order-differential-equations/exact-equations/v/exact-equations-example-1>

<https://www.khanacademy.org/math/differential-equations/first-order-differential-equations/exact-equations/v/exact-equations-example-2>

<https://www.khanacademy.org/math/differential-equations/first-order-differential-equations/exact-equations/v/exact-equations-example-3>

<https://www.khanacademy.org/math/differential-equations/first-order-differential-equations/exact-equations/v/integrating-factors-1>

<https://www.khanacademy.org/math/differential-equations/first-order-differential-equations/exact-equations/v/integrating-factors-2>