

## Implicit differentiation practice

Find the derivative with respect to  $x$  for each of the following expressions:

### Set 0

(1)  $x$

(2)  $y$

(3)  $-2x$

(4)  $-2y$

(5)  $x+y$

(6)  $x - \frac{y}{2}$

### Set I

(1)  $x^2$

(2)  $y^2$

(3)  $x^2 + y$

(4)  $xy$

(5)  $e^x$

(6)  $e^y$

(7)  $\sin(y)$

(8)  $x \sin(y)$

(9)  $\tan(y)$

### Set II

(1)  $x^2 y$

(2)  $xy^2$

(3)  $e^{xy}$

(4)  $\sin(xy)$

(5)  $\sin(y^2)$

(6)  $\sin \frac{x}{y}$

(7)  $\frac{\sin(x)}{y}$

(8)  $\frac{\sin(y)}{x}$

(9)  $e^{\sin y}$