

Review Sheet #2 - Chain Rule, Trig Functions, Implicit Differentiation

Find  $dy/dx$  for each:

1)  $y = \sin(x + 1)$

2)  $y = \sin(x/2)$

3)  $y = \sec(1 - x)$

4)  $y = \cos^2(5x)$

5)  $y = 2\sin x \cos x$

6)  $y = (x^2 + 2x)^{-2}$

$$7) 2xy + y^2 = x + y$$

$$8) x^2 = \frac{x-y}{x+y}$$

$$9) y = (4x^3 - 2x^2)^{12}$$

$$10) x^5 + 4xy^3 - y^5 = 2$$

$$11) y = x^2 \sin(2x)$$