1.

Homework Questions 7 - Rate of Change

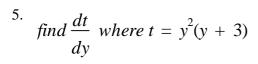
For the rate of change of the following by differentiating

find
$$\frac{d\theta}{dt}$$
 where $\theta = t^3 - 4t + 6$

2. find
$$\frac{dx}{dy}$$
 where $x = 7y^2 - 3y + 2$

3. find
$$\frac{dr}{dt}$$
 where $r = 3t^2 - 2t + 1$

4. find
$$\frac{da}{dr}$$
 where $a = \pi r^2$











 $6. \quad find \frac{ds}{dt} \text{ where } s = 7t^2 - 6t$

7. find
$$\frac{da}{dx}$$
 where $a = 8x^3 - 2x^2 - 3$

8. find
$$\frac{dy}{dx}$$
 where $y = 5x^2 - \frac{1}{x^3} + x$

9. find
$$\frac{dy}{dx}$$
 where $y = (x - 4)(2 - 3x)$

^{10.} find
$$\frac{d\theta}{dt}$$
 where $\theta = (t + 1)(t^2 - 4)$

