

## Derivatives

## Basic

## Product Rule

1.  $\frac{d}{dt}(5t(2t + 3))$

2.  $\frac{d}{dx}\left(x\left(1 - \frac{2}{x}\right)\right)$

3.  $\frac{d}{dx}(3x^2\sqrt{x})$

4.  $\frac{d}{dx}\left((2 - 3x)(x^2 + 5x - 1)\right)$

5.  $\frac{d}{dx}\left(2x(x^2 - 1)\right)$

6.  $\frac{d}{dx}\left((x - 4)(x + 5)\right)$

7.  $\frac{d}{dx}(2x(x - 3))$

8.  $\frac{d}{dx}\left(x^2(2x + 2)\right)$

9.  $\frac{d}{dx}\left((x + 1)(x - 1)\right)$

10.  $\frac{d}{dx}\left((11x + 2)(16 - 20x + x^5)\right)$

**Answers****Derivatives****Basic****Product Rule**

1.  $5(4t + 3)$

2. 1

3.  $\frac{15x^{\frac{3}{2}}}{2}$

4.  $-9x^2 - 26x + 13$

5.  $2(3x^2 - 1)$

6.  $2x + 1$

7.  $2(2x - 3)$

8.  $6x^2 + 4x$

9.  $2x$

10.  $66x^5 + 10x^4 - 440x + 136$