Derivatives Review Sheet

Find the 1st and 2nd derivatives of each of the following:

1) $y = -3x^5$

2) $y = 3x^4 + 2x + 1$

3) $y = \frac{1}{2}(x^4 + 7)$

4) $y = \pi^3$

5) $y = \sqrt{2}x + \frac{1}{\sqrt{2}}$

6) $y = \frac{x^2 + 1}{5}$

7) $y = \frac{-3}{x^4}$

8) $y = \frac{7}{x^3}$

9) $y = \frac{1}{x^3} + \frac{1}{x^7}$

10) $y = -1/3(x^7 + 2x - 9)$

*11) $y = \sqrt{x} + \frac{1}{x}$ ***(* Find first derivative only)***

12) $y = \frac{x^3}{3} - \frac{x^2}{2}$

13) $y = \frac{x^6}{3} + \frac{3x^2}{2}$

14) $y = \frac{x^4}{48}$

Use two methods to find each of the following derivatives:

15) $y = (3x^2 + 6)(2x - ¼)$

16) $y = (2 - x - 3x^3)(7 + x^5)$

17) $y = (x + 3)(2 - x^2)$

18) $y = x^3(x + 1/x^2)$