(C1-7.5) Name:

Homework Questions 5 – Expanding and Simplifying

Use standard results to differentiate after first expanding or simplifying the function

1. $y = 3(2x - x^2)$

2. $f(x) = x(x + 1)$

3. $f(x) = (2x + 3)^2$

4. $y = x(2x + 3)^2$

5. $y = 3(x - 1)(x + 2)$

6. $f(x) = 2x^2(4x - 3)$

7. $f(x) = \dfrac{12x^5}{6x}$

8. $y = \dfrac{x^2 - x}{x}$

9. $y = \dfrac{3x^2 - 4x}{x}$

10. $f(x) = \dfrac{3x^4 + 4x^2 + 6x}{2x}$

11. $f(x) = \sqrt[3]{x}$

12. $y = \sqrt[4]{x}$

13. $y = 3x - \sqrt{x} + x^2$

14. $f(x) = \dfrac{x^2 + x}{\sqrt{x}}$

15. $f(x) = \dfrac{3x^4 - 2x^2}{\sqrt[3]{x}}$

16. $f(x) = -\dfrac{2}{\sqrt{x}}$

17. $y = \dfrac{x^2 - 3x}{2x^4}$

18. $y = x^3 - \dfrac{1}{2x^2} + \dfrac{4}{x^3}$

19. $f(x) = (2x - 3)(x - 4)$

20. $f(x) = (x + 4)^2 + 2x^2$