



Basic Derivation Worksheet

1. $\frac{d}{dx}(8x^3 + 7x^2 + 10x + 2)$

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

3. $\frac{d}{dx}(7x^4 + 10x^3 + 4x^2 + x + 5)$

4. $\frac{d}{dx}(8x^3 + 3x^2 + 2x + 2)$

5. $\frac{d}{dx}(8x^4 + 6x^3 + 10x^2 + x + 4)$

6. $\frac{d}{dx}(x^2 + 4x + 5)$

7. $\frac{d}{dx}(6x^3 + 6x^2 + 2x + 6)$

8. $\frac{d}{dx}(6x^3 + 4x^2 + 8x + 3)$

9. $\frac{d}{dx}(x^3 + 4x^2 + 10x + 9)$

10. $\frac{d}{dx}(7x^2 + 9x + 4)$

11. $\frac{d}{dx}(4x^4 + 5x^3 + x^2 + 4x + 7)$

12. $\frac{d}{dx}(4x + 5)$

13. $\frac{d}{dx}(5x^3 + 7x^2 + 3x + 3)$

14. $\frac{d}{dx}(3x^3 + 9x^2 + 10x + 5)$

15. $\frac{d}{dx}(5x^2 + 7x + 4)$

16. $\frac{d}{dx}(2x^3 + 5x^2 + 10x + 8)$

17. $\frac{d}{dx}(2x^3 + 8x^2 + 7x + 9)$

18. $\frac{d}{dx}(10x^3 + 8x^2 + 8x + 4)$

19. $\frac{d}{dx}(4x^2 + 9x + 8)$

20. $\frac{d}{dx}(9x^2 + 4x + 2)$

21. $\frac{d}{dx}(8x^2 + 8x + 4)$

22. $\frac{d}{dx}(5x^2 + 4x + 9)$



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23. $\frac{d}{dx}(4x^2 + 7x + 7)$

34. $\frac{d}{dx}(x + 8)$

24. $\frac{d}{dx}(5x^4 + 8x^3 + 6x^2 + 7x + 7)$

35. $\frac{d}{dx}(10x^4 + 9x^3 + 6x^2 + 8x + 9)$

25. $\frac{d}{dx}(8x + 5)$

36. $\frac{d}{dx}(9x^4 + 9x^3 + 9x^2 + 8x + 3)$

26. $\frac{d}{dx}(7x + 8)$

37. $\frac{d}{dx}(3x^3 + 6x^2 + 6x + 5)$

27. $\frac{d}{dx}(8x^2 + 10x + 1)$

38. $\frac{d}{dx}(3x^2 + 9x + 1)$

28. $\frac{d}{dx}(8x^3 + 9x^2 + 9x + 3)$

39. $\frac{d}{dx}(7x^3 + 5x^2 + 2x + 3)$

29. $\frac{d}{dx}(2x^2 + 9x + 2)$

40. $\frac{d}{dx}(6x^4 + 5x^3 + x^2 + 4x + 6)$

30. $\frac{d}{dx}(2x^2 + 6x + 7)$

41. $\frac{d}{dx}(2x + 9)$

31. $\frac{d}{dx}(6x + 10)$

42. $\frac{d}{dx}(4x + 9)$

32. $\frac{d}{dx}(5x + 8)$

43. $\frac{d}{dx}(4x^3 + 9x^2 + 7x + 8)$

33. $\frac{d}{dx}(9x^2 + 2x + 10)$

44. $\frac{d}{dx}(x^3 + 6x^2 + 4x + 4)$



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45. $\frac{d}{dx}(5x^3 + 7x^2 + x + 3)$
46. $\frac{d}{dx}(7x^3 + 2x^2 + 10x + 10)$
47. $\frac{d}{dx}(5x^2 + 7x + 4)$
48. $\frac{d}{dx}(9x^4 + 3x^3 + 2x^2 + 5x + 4)$
49. $\frac{d}{dx}(5x^2 + 8x + 3)$
50. $\frac{d}{dx}(x^4 + 6x^3 + 3x^2 + x + 9)$
51. $\frac{d}{dx}(6x + 9)$
52. $\frac{d}{dx}(7x^3 + 8x^2 + 2x + 10)$
53. $\frac{d}{dx}(5x + 5)$
54. $\frac{d}{dx}(2x^3 + x^2 + 3x + 9)$
55. $\frac{d}{dx}(10x^2 + 2x + 10)$
56. $\frac{d}{dx}(10x^3 + 7x^2 + 8x + 6)$
57. $\frac{d}{dx}(2x + 3)$
58. $\frac{d}{dx}(4x^3 + 5x^2 + 10x + 5)$
59. $\frac{d}{dx}(3x^2 + 5x + 4)$
60. $\frac{d}{dx}(3x^3 + 7x^2 + 5x + 8)$



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Answer Key

- | | | | |
|-----|---------------------------|-----|-------------------|
| 1. | $24x^2 + 14x + 10$ | 12. | 4 |
| 2. | 8 | 13. | $15x^2 + 14x + 3$ |
| 3. | $28x^3 + 30x^2 + 8x + 1$ | 14. | $9x^2 + 18x + 10$ |
| 4. | $24x^2 + 6x + 2$ | 15. | $10x + 7$ |
| 5. | $32x^3 + 18x^2 + 20x + 1$ | 16. | $6x^2 + 10x + 10$ |
| 6. | $2x + 4$ | 17. | $6x^2 + 16x + 7$ |
| 7. | $18x^2 + 12x + 2$ | 18. | $30x^2 + 16x + 8$ |
| 8. | $18x^2 + 8x + 8$ | 19. | $8x + 9$ |
| 9. | $3x^2 + 8x + 10$ | 20. | $18x + 4$ |
| 10. | $14x + 9$ | 21. | $16x + 8$ |
| 11. | $16x^3 + 15x^2 + 2x + 4$ | 22. | $10x + 4$ |



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|-----|---------------------------|-----|---------------------------|
| 23. | $8x + 7$ | 34. | 1 |
| 24. | $20x^3 + 24x^2 + 12x + 7$ | 35. | $40x^3 + 27x^2 + 12x + 8$ |
| 25. | 8 | 36. | $36x^3 + 27x^2 + 18x + 8$ |
| 26. | 7 | 37. | $9x^2 + 12x + 6$ |
| 27. | $16x + 10$ | 38. | $6x + 9$ |
| 28. | $24x^2 + 18x + 9$ | 39. | $21x^2 + 10x + 2$ |
| 29. | $4x + 9$ | 40. | $24x^3 + 15x^2 + 2x + 4$ |
| 30. | $4x + 6$ | 41. | 2 |
| 31. | 6 | 42. | 4 |
| 32. | 5 | 43. | $12x^2 + 18x + 7$ |
| 33. | $18x + 2$ | 44. | $3x^2 + 12x + 4$ |



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45. $15x^2 + 14x + 1$
46. $21x^2 + 4x + 10$
47. $10x + 7$
48. $36x^3 + 9x^2 + 4x + 5$
49. $10x + 8$
50. $4x^3 + 18x^2 + 6x + 1$
51. 6
52. $21x^2 + 16x + 2$
53. 5
54. $6x^2 + 2x + 3$
55. $20x + 2$
56. $30x^2 + 14x + 8$
57. 2
58. $12x^2 + 10x + 10$
59. $6x + 5$
60. $9x^2 + 14x + 5$