

Practice Factoring for Derivatives

Factor

1. $15x^3 + 9x^2$

3. $3k^2 - 10k + 7$

5. $3x^2 + 9x + 4x + 12$

7. $x^{\frac{1}{2}} - 5x^{\frac{5}{2}}$

2. $7m^2 + 6m - 1$

4. $14u^2 + 35u^4$

6. $5x^2 - 14x + 8$

8. $2x^2 - 3x - 5$

Factor and simplify

9. $3(x - 1)^2 + 10(x - 1) - 8$

11. $x^2(x + 3)^3 + x^4(x + 3)^2$

13. $16x^4(x^4 - 2)^3 + (x^4 - 2)^4$

15. $-x^2(x + 1)^{-3} + 2x(x + 1)^{-4}$

10. $2(2x - 3)^2 + 7(2x - 3) - 30$

12. $-8(4x + 3)^{-2} + 10(4x + 3)^{-1}$

14. $32(2x + 5)^4(4x - 1)^7 + 8(4x - 1)^8(2x + 5)^3$

Solve on the interval $[0, 2\pi)$

16. $7\sin\theta = 3\sqrt{3} + \sin\theta$

18. $\cos\theta = \sin\theta$

20. $2\sin^2x - 3\sin x + 1 = 0$

17. $\sec\theta\csc\theta + \sqrt{2}\csc\theta = 0$

19. $3\tan^2\theta = 1$