Calculus Worksheet #1 Unit 5 page 1 _____

Use the chain rule to find dy/dx for each of the following functions.

1. $y = (3x + 5)^4$ **dy/dx =** _____

2. $y = (5x - 2)^3$ **dy/dx =** _____

3. $y = (x - 7)^6$ **dy/dx =** _____

4. $y = (1 - 5x)^3$ **dy/dx =** _____

5. $y = (9 - x^2)^4$ **dy/dx =** _____

6. $y = (9x + 5)^{-2}$ **dy/dx =** _____

7. $y = (x^3 - 2)^{-3}$ **dy/dx =** _____

8. $y = (x^2 - 1)^7$ **dy/dx =** _____

9. $y = (x^2 + 5x - 3)^4$ **dy/dx =** _____

10. $y = (x^2 - x + 3)^5$ **dy/dx =** _____

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Use the chain rule to find dy/dx for each of the following functions.

11. $y = \frac{1}{3x + 1}$ dy/dx = _____

12. $y = \frac{1}{(2x - 5)^3}$ dy/dx = _____

13. $y = \sqrt{4x + 3}$ dy/dx = _____

14. $y = \sqrt{x^2 - 1}$ dy/dx = _____

15. $y = \sqrt{1 - x^3}$ dy/dx = _____

16. $y = \sqrt[3]{4 - 5x}$ dy/dx = _____

17. $y = \frac{1}{\sqrt{9 - 4x^2}}$ dy/dx = _____