Worksheet $10\frac{1}{2}$
Beginning Antiderivatives
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Let $U = \mathbb{R} \times \mathbb{R}$

Assume everything given is a well defined planar curve and all derivatives are with respect to x.

Exercise 10.1. Find y when $y' = 5x^3$

Exercise 10.2. Find y when $y' = 14x^9$

Exercise 10.3. Find y when $y' = 0.5x^2$

Exercise 10.4. Find y when $y' = 4x^7$

Exercise 10.5. Find y when $y' = 5x^{-3}$

Exercise 10.6. Find y when $y' = \dfrac{2}{x^5}$

Exercise 10.7. Find y when $\frac{dy}{dx} = 5x^3$

Exercise 10.8. Let $\dfrac{dy}{dx} = 11x^{\frac{3}{7}}$ Find y.

Exercise 10.9. Let $\dfrac{dy}{dx} = 12\sqrt{3}x$ Find y.

Exercise 10.10. Let $\dfrac{dy}{dx} = 12\sqrt{3x}$ Find y.

Exercise 10.11. Let $\dfrac{dy}{dx} = 12\sqrt[3]{x}$ Find y.

Exercise 10.12. Let $y' = 2x^{-1}$ Find y.

Exercise 10.13. Let $y' = 2x^{-1}$ Find y.

Exercise 10.14. Let $\dfrac{dy}{dx} = \dfrac{5}{x}$ Find y.

Try these:

Exercise 10.15. Find y when $y' = \sin(x)$

Exercise 10.16. Find y when $\dfrac{dy}{dx} = 5x^3 + 14x^9 - 0.5x^2 + 4x^7 - \dfrac{2}{x^5}$

Exercise 10.17. Find y when $y' = \pi + 5x^3 + 14x^9 - 0.5x^2 + 4x^7 - \dfrac{2}{x^5}$

Exercise 10.18. Find y when $y' = (5x^3 + 14x^9) \cdot (0.5x^2 + 4x^7)$