Method 1 - pdflatex Test Document
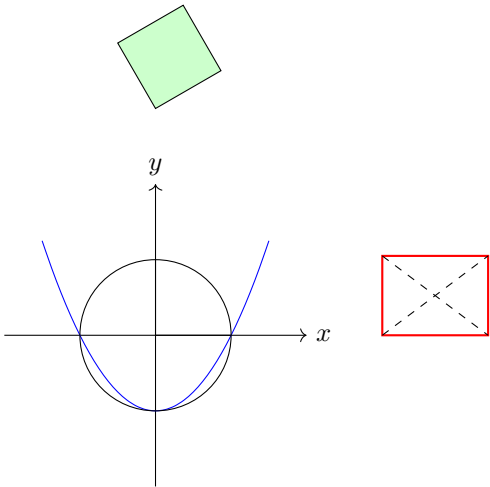
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1 Mathematical Content

The quadratic formula is $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$

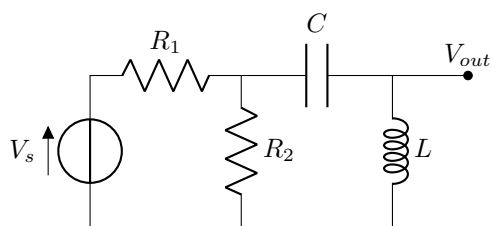$$E = mc^2 \tag{1}$$

$$F = ma \tag{2}$$

$$\nabla \times \vec{E} = -\frac{\partial \vec{B}}{\partial t} \tag{3}$$

2 TikZ Graphics with Scope

3 Circuit Diagrams

4 Tabular Data

Method	Speed	Quality
pdflatex	Fast	Good
xelatex	Medium	Excellent
lualatex	Medium	Very Good

Table 1: Comparison of LaTeX engines

5 Additional Complex Table

Package	Lines	Status	Description
circuitikz	10000+	Available	Circuit diagrams
tikz	50000+	Available	General graphics
amsmath	2000+	Available	Mathematical typesetting
geometry	1500+	Available	Page layout control

Table 2: Available LaTeX packages

6 Custom Question Environment

0. What is the derivative of x^2?

Part I

2x(*Correct*)

Part II

x(*Incorrect*)

Part III

2x^2 (Incorrect)

0. Solve for x: $2x + 5 = 11$

() Show your work: $2x = 11 - 5 = 6$, so $x = 3$

() Verify your answer: $2(3) + 5 = 6 + 5 = 11$

0. Evaluate the integral $\int_0^1 x^2\, dx$

Part I

$1_{\overline{3}}$ (Correct)

Part II

$1_{\overline{2}}$ (Incorrect)

Part III

$\mathbf{1}(Incorrect)$