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Find the particular solution of the Diff EQ.

$\sqrt{x} + \sqrt{y}y' = 0 \quad y(1) = 4$	$2xy' - \ln x^2 = 0 \quad y(1) = 2$	$y\sqrt{1-x^2}y' - x\sqrt{1-y^2} = 0 \quad y(0)=1$
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Find the region bounded by the following curves.

$y = x^2 - 1$ and the x-axis	$y = x^2 - 1$ and $y = -x + 1$	$y = x^2 + 2$ , $y = -x$ , $x = 0$ , and $x = 1$
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Answer the following Free Response questions.

<p>Consider the differential equation <math>\frac{dy}{dx} = xy^2</math>.</p> <p>a. Find the general solution of the given differential equation in terms of a constant C.</p> <p>b. Find the particular solution of the differential condition that satisfies the initial condition <math>y(0) = 1</math>.</p>	<p>Consider the differential equation <math>\frac{dy}{dt} = 5y - 5</math>.</p> <p>a. Draw a slope field for <math>-3 &lt; t &lt; 3</math>.</p> <p>b. Solve the differential equation given <math>y(0) = 5</math>.</p> <p>c. Find the equation of the horizontal asymptote of the graph of the solution in part b.</p>
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Mixed Review:

1. Find the equation of the tangent line to the curve $y = \frac{3x+4}{4x-3}$ at the point (1, 7).	2. $\int_0^3 \frac{x}{\sqrt{x^2+16}} dx$
3. Find the average value of $\sqrt{3x}$ on the closed interval [0, 9].	4. $\frac{d}{dx} \int_0^{2x} (e^t + 2t) dt$
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