1. The curve $y=\frac{1}{3} x^{3}$ for $1 \leq x \leq 2$ is rotated around the $x$-axis.

Find the area of the resulting surface.

1. The curve $y=\sqrt{1-x^{2}}$ for $-1 / 2 \leq x \leq 1 / 2$ is rotated around the $x$-axis.

Find the area of the resulting surface.

1. The curve $y=2 \sqrt{x}$ for $0 \leq x \leq 3$ is rotated around the $x$-axis.

Find the area of the resulting surface.

1. The curve $y=\frac{1}{2}\left(e^{x}+e^{-x}\right)$ for $0 \leq x \leq 2$ is rotated around the $x$-axis.

Find the area of the resulting surface.

