

Math Sheet

Name _____ Score _____ Teacher _____ Date _____

Arc Length and Surface Area

Write the correct x- or y-direction integral. Evaluate only the selected friendly exact families; otherwise the exact setup is the final answer.

1. The quarter circle $y=\sqrt{196-x^2}$, $0\leq x\leq 14$, is revolved about the x-axis. Set up the surface-area integral.

2. For $y=2/3(x+1)^{3/2}$, $0\leq x\leq 5$, find the exact arc length.

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Write the correct x- or y-direction integral. Evaluate only the selected friendly exact families; otherwise the exact setup is the final answer.

3. For $x = \frac{2}{3}(y+1)^{3/2}$, $0 \leq y \leq 9$, set up the arc-length integral.

4. The quarter circle $x = \sqrt{196 - y^2}$, $0 \leq y \leq 14$, is revolved about the y-axis. Find the exact surface area.

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Write the correct x- or y-direction integral. Evaluate only the selected friendly exact families; otherwise the exact setup is the final answer.

5. The quarter circle $y=\sqrt{36-x^2}$, $0\leq x\leq 6$, is revolved about the x-axis. Set up the surface-area integral.

6. For $x=2/3(y+1)^{3/2}$, $0\leq y\leq 9$, find the exact arc length.
