Worksheet 1 – Solids of Revolution – Attempt 2

Name:

Set up but DO NOT evaluate the integral for the following:

1. \( y = x^3, \ x = 1, \ x = 8, \ y = 1 \)
   (a) about the x-axis
   (b) about the y-axis
   (c) about \( x = -1 \)
   (d) about \( y = 30 \)

2. \( y = x^{1/2}, \ x = 4, \ x = 16, \ y = 0 \)
   (a) about the x-axis
   (b) about the y-axis
   (c) about \( x = 1 \)
   (d) about \( x = -1 \)
   (e) about \( y = 5 \)
   (f) about \( y = -2 \)

3. \( y = x, \ x = -1, \ x = -4, \ y = 0 \)
   (a) about the x-axis
   (b) about the y-axis
   (c) about \( x = 1 \)
   (d) about \( x = -1 \)
   (e) about \( y = 2 \)
   (f) about \( y = -5 \)

4. \( y = x^2, \ x = 0, \ x = 2, \ y = 0 \)
   (a) about the x-axis
   (b) about the y-axis
   (c) about \( x = 4 \)
   (d) about \( x = -2 \)
   (e) about \( y = -2 \)
   (f) about \( y = 5 \)

5. \( y = e^x, \ x = 1, \ x = 8, \ y = 0 \)
   (a) about the x-axis
   (b) about the y-axis
   (c) about \( x = 10 \)
   (d) about \( y = 4 \)
   (e) about \( x = -1 \)