# Worksheet: Application of Integrals

Maharashtra State Board · Class 12 · Mathematics · 8 questions · 33 marks

| Name: _____ | Date: _____ | Score: _____ / 33 |
|---|---|---|

**Q1.** Find the area bounded by y=x^2, x=1, x=2, and the x-axis. *[3 marks]*

**Q2.** Find the area bounded by y=x^4, x=1, x=5, and the x-axis. *[3 marks]*

**Q3.** Find the area of the region bounded by the ellipse x^2/16+y^2/9=1. *[3 marks]*

**Q4.** Find the area lying in the first quadrant and bounded by the circle x^2+y^2=4 and the lines x=0 and x=2. *[4 marks]*

**Q5.** Find the area of the region bounded by the curve y^2=4x, the y-axis, and the line y=3. *[4 marks]*

**Q6.** Find the area of the region bounded by the line y=3x+2, the x-axis, and the ordinates x=-1 and x=1. *[5 marks]*

**Q7.** Find the area bounded by the curve y=sin x between x=0 and x=2*pi. *[6 marks]*

**Q8.** The area bounded by the curve y=x|x|, the x-axis, and the ordinates x=-1 and x=1 is given by which of (A) 0 (B) 1/3 (C) 2/3 (D) 4/3? *[5 marks]*