

## Worksheet: Application of Integrals (Area Under Curves)

Gujarat State Board · Class 12 · Mathematics · 3 questions · 14 marks

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Score: \_\_\_\_\_ / 14

**Q1.** Find the area of the region bounded by  $y = x^2$ ,  $y = 0$ ,  $x = 0$  and  $x = 3$ . [3 marks]

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**Q2.** Find the area of the region enclosed by the parabola  $y = x^2$  and the line  $y = x + 2$ . [5 marks]

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**Q3.** Using integration, find the area of the region in the first quadrant enclosed by the circle  $x^2 + y^2 = 4$  and the line  $x = 3 \cdot y$ . [6 marks]

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