

## Worksheet: Applications of Integrals

Punjab State Board · Class 12 · Mathematics · 5 questions · 14 marks

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

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

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

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

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**Q2.** Find the area of the ellipse  $x^2/9 + y^2/4 = 1$  by integration. [2 marks]

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**Q3.** Find the area bounded by  $y^2 = x$  and  $y = x$ . [3 marks]

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**Q4.** Find the area bounded by  $y = \sin x$  and the x-axis from  $x = 0$  to  $2\pi$ . [3 marks]

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**Q5.** Find the area between  $y = 4 - x^2$  and  $y = x^2 - 4$ . [4 marks]

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