SASKATCHEWAN CALCULUS 30 · UNIT D

Optimization and Related Rates — Practice Test

Saskatchewan Calculus 30 • 10 questions

This practice test was made by AI and there may be mistakes. If a question or answer looks wrong, use the Flag a mistake button to let Brett know so he can fix it.

1 **A sphere has radius 5 cm and its radius grows at 2 cm per second. Using pi equals 3.14, the rate of change of volume, in cm³ per second, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

2 **A rectangle has perimeter 100 m. Its maximum possible area, in m², is**

ANSWER _____

Understand It with Pulse | Flag a mistake

3 **A rectangular garden has area 36 m² and is a square. Its perimeter, in metres, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

4 **Two numbers sum to 10. Their maximum possible product is**

ANSWER _____

Understand It with Pulse | Flag a mistake

5 **A farmer has 80 m of fencing to enclose a rectangular field against a straight river, so only three sides need fencing. The maximum area, in m², is**

ANSWER _____

Understand It with Pulse | Flag a mistake

6 **A rectangle has width 12 m and length twice its width. Its area, in m², is**

ANSWER _____

Understand It with Pulse | Flag a mistake

7 **A sphere has radius 5 cm and its radius grows at 4 cm per second. Using pi equals 3.14, the rate of change of volume, in cm³ per second, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

8 **A rectangle has perimeter 200 m. Its maximum possible area, in m², is**

ANSWER _____

Understand It with Pulse | Flag a mistake

9 **Two numbers sum to 40. Their maximum possible product is**

ANSWER _____

Understand It with Pulse | Flag a mistake

10 **A rectangle has perimeter 60 m. Its maximum possible area, in m², is**

ANSWER _____

Understand It with Pulse | Flag a mistake

ANSWER KEY

1.	628	**5.**	800	**9.**	400
2.	625	**6.**	288	**10.**	225
3.	24	**7.**	1256		
4.	25	**8.**	2500		

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