

NAME: _____ ID: _____ Section: _____

Exercise 1 (3 points) The differential of the radius of a cylinder is measured and found to be 0.04. If the height of the cylinder is supposed to be the double of its radius, find the percentage error of the volume of the cylinder when its radius is 4.

Exercise 2 (3 points) Find the local extremums to the curve $y = (x - 3)\sqrt{x}$

Exercise 3 (4points) Show that the equation $x^7 + 3x - 2 = 0$ has exactly one real root.

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Exercise 1 1 (3 points) The differential of the volume of a sphere is measured and found to be 0.05. Find the percentage error of the radius of the sphere when its volume is 5.

Exercise 2 (3 points) Find the local extremums to the curve $y = (x - 4)\sqrt{x - 1}$

Exercise 3 (4points) Show that the equation $x^5 + 6x - 2 = 0$ has exactly one real root.

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Exercise 1 (3 points) The differential of the radius of a cone is measured and found to be 0.06. If the height of the cone is supposed to be the triple of its radius, find the percentage error of the volume of the cone when its radius is 6.

Exercise 2 (3 points) Find the local extremums to the curve $y = (x - 5)\sqrt{x - 2}$

Exercise 3 (4points) Show that the equation $x^9 + 5x - 2 = 0$ has exactly one real root.