

Please show **all** your work! Answers without supporting work will not be given credit.
Write answers in spaces provided.

Name: _____

1. Find the point(s) on the curve $y^3 = x^2$ closest to the point $(0, 4)$.

To receive full credit for this problem, you must show all 7 steps, as discussed in Lesson 24-26.

Hints:

- (a) Step 2: Copy the graph from wolfram alpha
(b) Step 5: Determine the domain with the graph in Step 2.
(c) Step 6: When determining the absolute extrema, remember to check your endpoint(s) too.

More hints: ⑤ Domains of both x & y

$$\textcircled{3} D = (x-0)^2 + (y-4)^2 \\ = x^2 + (y-4)^2$$

$$\textcircled{4} y^3 = x^2$$

⑥ Can you use ④ as is for ③?