Name_____

Newton's Method

Date_____ Period_____

Use two iterations of Newton's Method to approximate the real zeros of each function. Use the provided initial guess.

1) $y = \cos 3x - 3x$
    Guess: 0.4

2) $y = x^5 - 2x^3 + x - 4$
    Guess: 1.8

Use Newton's Method to approximate the x-coordinates where the two functions intersect.

3) $y = -x^3 + x^2 + 1$
    $y = x^5 - 2x^3 - 4$

4) $y = x^4 - x^3 - 3x^2 - 1$
    $y = -x^4 + 2x^3 + 2x^2 - 6x + 3$

For each problem, use Newton's Method to approximate the positive root.
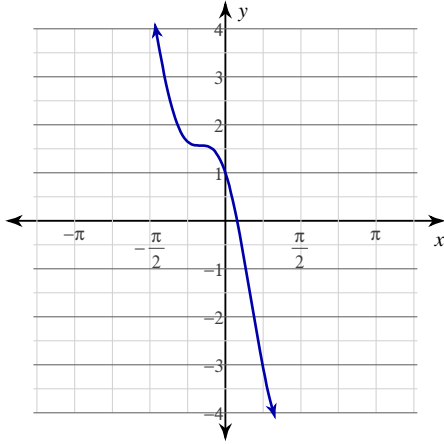
5) $\sqrt[5]{4}$

6) $\sqrt[5]{7}$

Newton's Method

Use two iterations of Newton's Method to approximate the real zeros of each function. Use the provided initial guess.
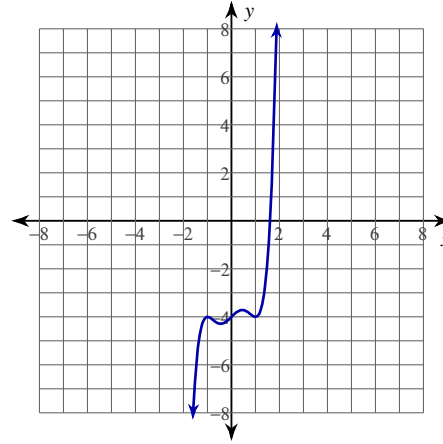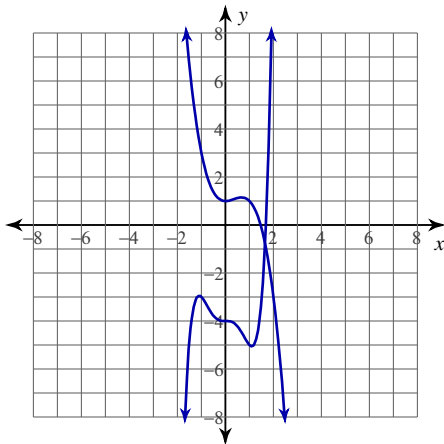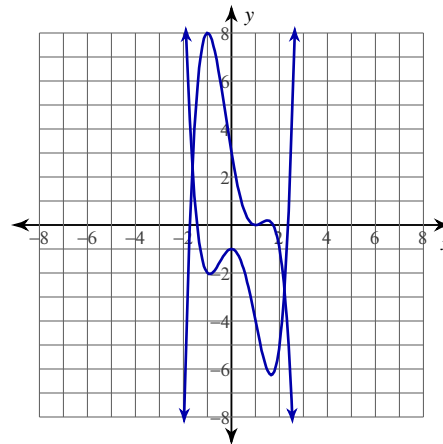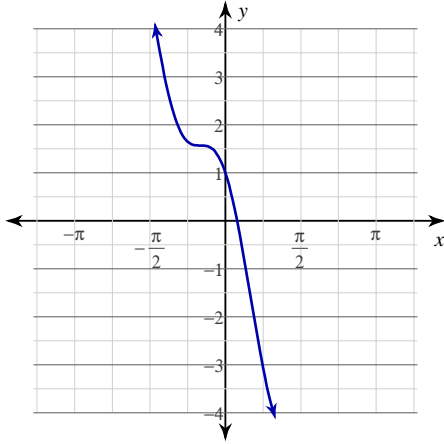
1) $y = \cos 3x - 3x$
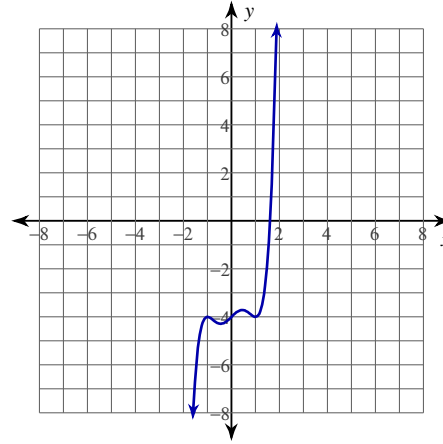   Guess: 0.4

0.246415247722

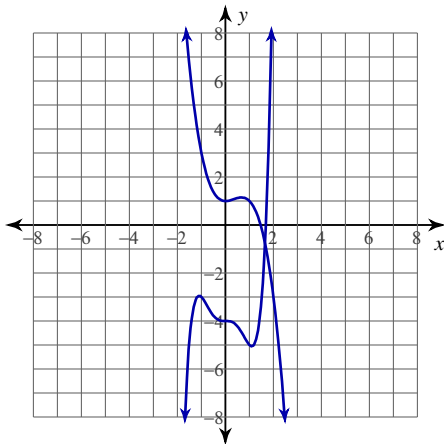2) $y = x^5 - 2x^3 + x - 4$
    Guess: 1.8

1.60907877917

Use Newton's Method to approximate the x-coordinates where the two functions intersect.

3) $y = -x^3 + x^2 + 1$
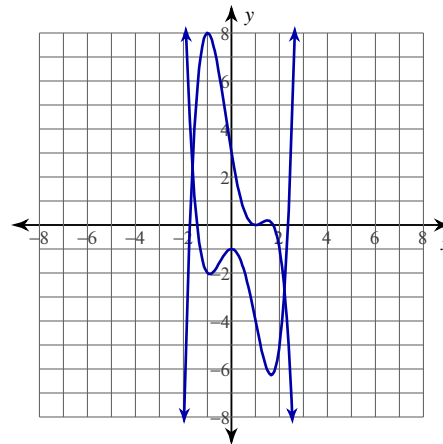 $y = x^5 - 2x^3 - 4$

~ 1.6494

4) $y = x^4 - x^3 - 3x^2 - 1$
    $y = -x^4 + 2x^3 + 2x^2 - 6x + 3$

~ −1.6287, 2.2036

For each problem, use Newton's Method to approximate the positive root.

5) $\sqrt[5]{4}$

    ~ 1.3195

6) $\sqrt[5]{7}$

    ~ 1.4758