

Math 1113 Test 3
Fall 1999, Dr. Howard

3. Sketch the graph of the rational function $f(x) = \frac{(3x-1)(x+3)}{(x-2)(x+2)} = \frac{3x^2+8x-3}{x^2-4}$, labeling any horizontal and vertical asymptotes and x - and y -intercepts.

4. Evaluate $\sin \frac{5\pi}{3}$ (give an exact answer, not a decimal approximation).

5. Find the values of all six trigonometric functions if $\sin t = 4/5$ and t is in quadrant II. (Give exact values, not decimal approximations).

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6. Find all values of t in the interval $[0, 2\pi]$ that satisfy each given equation:

a. $\sin t = -\frac{\sqrt{2}}{2}$

b. $\sin 4t = \frac{\sqrt{3}}{2}$

c. $\tan t - 3 \cot t = 0$

7. The graph of $g(x) = a \sin(bx) + d$ is depicted below. Determine the values of a , b , and d .

