$(-\infty, -3) \cup (-3,4) \cup (4, \infty)$
& $(-\infty, 0.5) \cup (0.5, 2) \cup (2, \infty)$

Find all real zeros of the polynomial equation $3x^2 + 20x - 32 = 0$

$x = -8,\ x = \frac{4}{3}$

Use synthetic division to determine if $x = \frac{2}{3}$ is a solution of the function

$$f(x) = 3x^3 - 8x^2 - 20x + 16$$

Yes

Verify that $(x - 4)$ is a factor of the polynomial $f(x) = x^3 + 4x^2 - 25x - 28$ using synthetic division.

Use your quotient to write the complete factorization of *f*.

$(x - 4)(x + 7)(x + 1)$

Write the complex number $8 + \sqrt{-100}$ in standard form.

$8 + 10i$

Find the product $(10 - 8i)(2 - 3i)$

$-4 - 46i$

Find the coordinate of the hole of the graph of the following rational function:

$$h(x) = \frac{2x - 8}{x^2 - 7x + 12}$$

(4, 2)

Write the quotient in standard form

$$\frac{6+i}{4-i}$$

$$\frac{23}{17}+\frac{10}{17}i$$

Find a third degree polynomial function with real coefficients that has zeros of -1 and -3i.

$$f(x)=x^3+x^2+9x+9$$

Find the domain of the function

$$f(x)=\frac{8}{x^2-10x+24}$$

in interval notation.

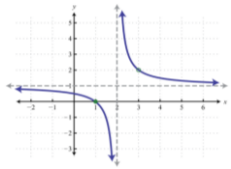
$$(-\infty,4)\cup(4,6)\cup(6,\infty)$$

What is the equation of the slant asymptote of the function

$$f(x)=\frac{x^2-4x}{x+2}$$

$$y=x-6$$

What is the domain and range of the graph of the function below?



$$(-\infty,2)\cup(2,3)\cup(3,\infty)$$
$$\&\ (-\infty,1)\cup(1,2)\cup(2,\infty)$$

Please use synthetic division to evaluate j(−3):

$$j(x)=2x^3-x^2+x-2$$

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A biologist introduces a population of ladybugs into a crop field given by the model

$$P = \frac{1000(1+3t)}{5+t}$$

What is the initial population of the ladybugs?

200 ladybugs

Please find all zeros of the following polynomial function:

$$f(x) = x^3 + 4x^2 + 9x + 10$$

-2, -1+2i, -1-2i

What is the domain and range of the graph of the function?