

Simplify the expression:

1.  $-(5 + i) - (7 + 5i)$
2.  $(3 + 4i)(5 - 2i)$
3.  $\frac{1-3i}{2+3i}$
4.  $i^{93}$
5.  $(4 + 3i) + (5 - 2i)$
6.  $(6 + i)(6 - i)$

7.  $5i(13 - 8i)$
8.  $(\sqrt{-16} + 3)(\sqrt{-25} - 2)$
9.  $\frac{6+i}{i}$
10.  $(3 + 7i)^2 + (3 - 7i)^2$
11.  $i(6 + i)(3 - 2i)$
12.  $i^{245}$

Find all asymptotes and holes of the function:

13.  $f(x) = \frac{2-x}{x+3}$
14.  $g(x) = \frac{4x}{x-8}$
15.  $h(x) = \frac{2}{x^2-3x-18}$
16.  $j(x) = \frac{2x^2+3}{x^2-3x-18}$

17.  $k(x) = \frac{7+x}{7-x}$
18.  $u(x) = \frac{4x^2}{2x^2-3}$
19.  $v(x) = \frac{x^2-5x+4}{x^2-1}$
20.  $w(x) = \frac{x^3+3x^2-2x-3}{x^2-3x+2}$

Graph the function:

21.  $f(x) = \frac{2x-1}{x-5}$
22.  $g(x) = \frac{2x}{x^2-4}$
23.  $h(x) = \frac{2x^2}{x^2-9}$
24.  $l(x) = \frac{2x^3}{x^2-1}$
25.  $m(x) = \frac{(2x^2+7x+3)}{x+1}$
26.  $u(x) = 2^{-x}$

27.  $v(x) = 2^{x-3} + 2$
28.  $w(x) = 3^{x+1} - 5$
29.  $t(x) = \log_3 x$
30.  $r(x) = \log(x - 2)$
31.  $q(x) = \ln(x - 3) + 2$

Use the properties of logarithms to simplify the expression:

32.  $\frac{1}{5} \log_3 9$
33.  $\log_5 5^{95}$
34.  $\log_{9452} 1$
35.  $\log_{10} \frac{1}{10}$
36.  $4 \log_3 3$
37.  $\ln e^5$
38.  $\log 10000000$
39.  $\log_4 4^2$