

Imaginary Numbers and Complex Numbers

Simplify the following.

1) i^{37}

2) i^{14}

3) i^{29}

4) i^0

5) i^{24}

6) i^{71}

Rewrite the following as imaginary.

7) $\sqrt{-144}$

8) $\sqrt{-65}$

9) $\sqrt{-147}$

10) $\sqrt{-56}$

11) $\sqrt{-49}$

12) $\sqrt{-300}$

Identify the real part and the imaginary part of the following.

13) $7 + 13i$

14) $-2 + 5i$

15) $-4i - 7$

16) $-9 + i$

Add or Subtract the following Complex Numbers.

17) $(4 + 10i) + (-9 - 2i)$

18) $(6 - 5i) + (6 - 4i)$

19) $(-10 + 6i) - (-8 + 4i)$

20) $(-8 + 4i) - (12 + i)$

21) $(3 + 7i) - (6 - 9i)$

22) $(-3 - 10i) + (-9 - 8i)$

Multiply the following Complex Numbers. *Remember that $i^2 = -1$.**

23) $(-7 - 6i)(5 + i)$

24) $(2 - 5i)(6 - 3i)$

25) $(-3 + 5i)^2$

26) $(6i)(7i)(3 - 5i)$

27) $(8 + 3i)(1 - 8i)$

28) $(3 - 6i)^2$

29) $-2(2i)(-2 + 5i)$

30) $(-1 - 8i)(-6 - 5i)$