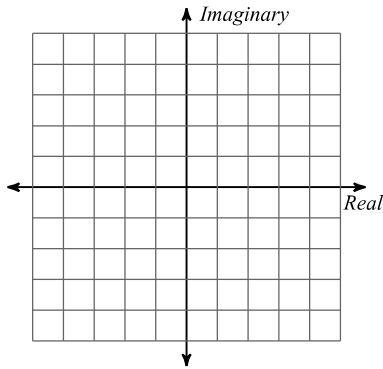


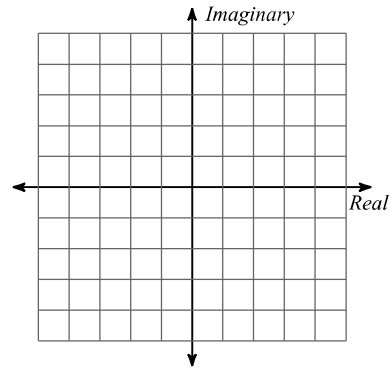
Complex Number & Exponential Properties

Graph each number in the complex plane.

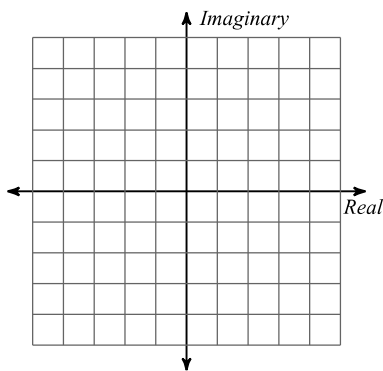
1) $1 + i$



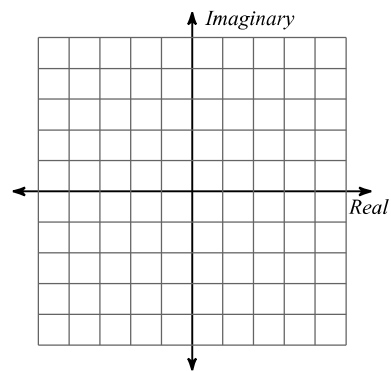
2) -3



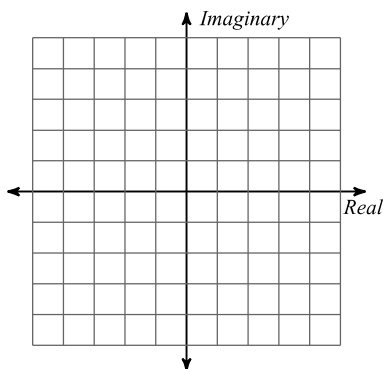
3) $4 + 2i$



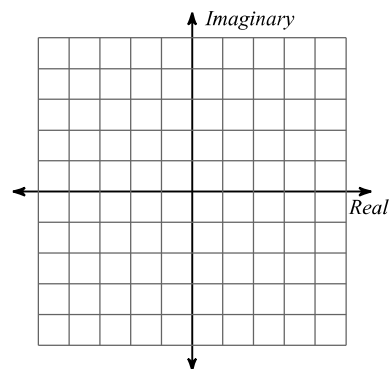
4) $-3i$



5) $-1 + i$

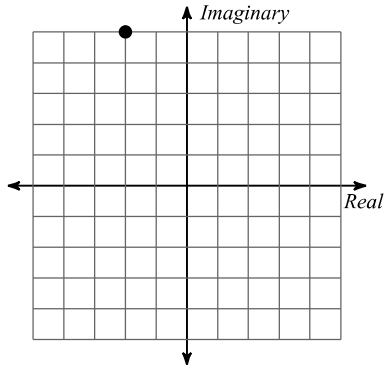


6) $2 + 4i$

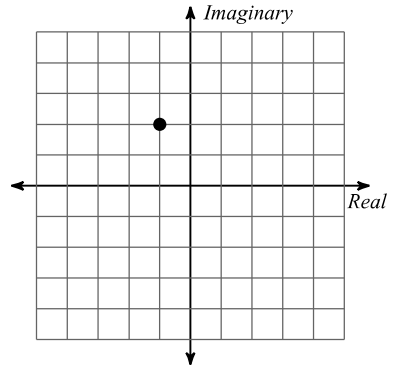


Identify each complex number graphed.

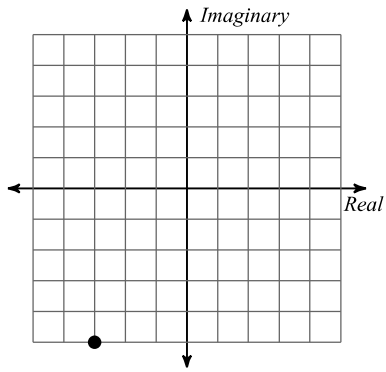
7)



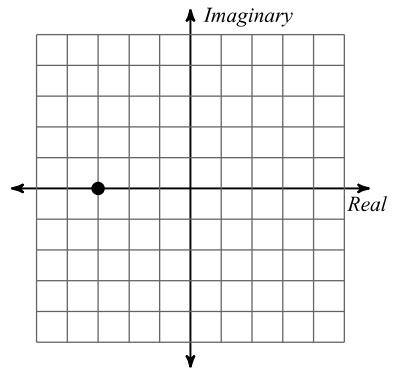
8)



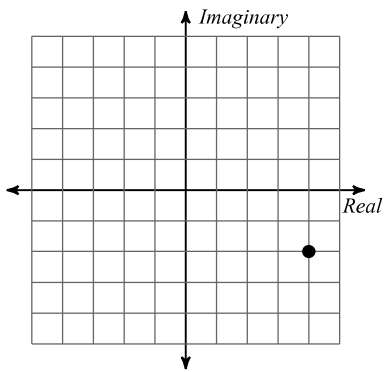
9)



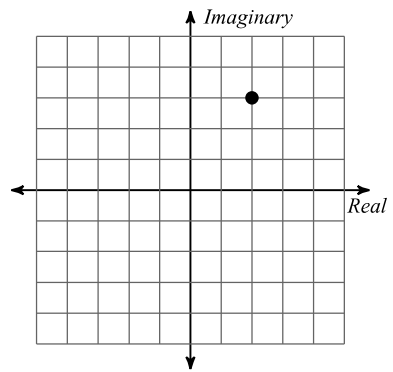
10)



11)



12)



Simplify.

13) $4 + (-1 - 5i) + (2i)$

14) $(3i) - (2 - 8i) + 7$

15) $(-7 + 8i) - (-8 - 2i)$

16) $(-5 - 5i) + (-4 + i)$

17) $4 + 5 + 2i - 7i$

18) $4 - 7i + 6 - 4i$

19) $1 + 8i - (8 + 2i)$

20) $-7 + i - (2 + 4i)$

21) $(3 + 4i)^2$

22) $(-5 - 5i)(5 + 5i)$

23) $(-2 + 3i)(3 - 2i)$

24) $(-4 - 3i)^2$

25) $(-4i)(-2 - 4i) - 3(-4 - 3i)$

26) $(3 - 2i) + (i) - (i)$

27) $(-7 - 8i)(-1 - 5i)$

28) $(-6i)(8i)(-6 + 4i)$

29) $(6i) - (i) + (3 - 3i)$

30) $(6i)(-6 + 5i) + (4i)(2i)$

Simplify. Your answer should contain only positive exponents.

31) $2m^3 \cdot 3m^0$

32) $(3n^0)^{-1}$

33) $\frac{3p^2}{2p^{-3}}$

34) $(2n^2)^4 \cdot 2n^{-3}$

35) $\frac{2n^0}{(n^{-2})^3}$

36) $\frac{3v^2}{v^{-3} \cdot 4v^{-2}}$

37) $2x^3 \cdot 3x$

38) $(x^2)^2$

39) $\frac{3x^3}{3x^2}$

40) $\frac{3v}{3v \cdot 3v^0}$

41) $\frac{(2v^3)^3}{3v}$

42) $(2x^0)^3 \cdot 3x^2$