Imaginary Numbers

**April 2016**

43. For *i* = rad(-1), (1 +2*i*)2 = ?

1. -3 + 4*i*
2. 2 + 2*i*
3. 2 + 4*i*
4. -4
5. -3

**December 2016**

43. Given that *i*2 = -1 and that k is a positive integer, what is the value of *i*(4k + 2)?

1. -*i*
2. -1
3. 0
4. 1
5. *i*

57. What is the distance, in coordinate units, between (2 + 6*i*) and (-4 + 3*i*) in the complex plane?

1. 7
2. 9
3. rad13
4. rad45
5. rad85

**April 2017**

58. Given a positive integer n such that *i*n = 1, which of the following statements about n must be true? (Note: *i*2 = -1)

1. When n is divided by 4, the remainder is 0.
2. When n is divided by 4, the remainder is 1.
3. When n is divided by 4, the remainder is 2.
4. When n is divided by 4, the remainder is 3.
5. Cannot be determined from the given information