

LT 4.1 Honors Skills Practice #2

Complex Numbers

Solve each equation.

1. $5n^2 + 35 = 0$

2. $2m^2 + 10 = 0$

3. $4m^2 + 76 = 0$

4. $-2m^2 - 6 = 0$

5. $-5m^2 - 65 = 0$

6. $\frac{3}{4}x^2 + 12 = 0$

Find the values of ℓ and m that make each equation true.

7. $15 - 28i = 3\ell + (4m)i$

8. $(6 - \ell) + (3m)i = -12 + 27i$

9. $(3\ell + 4) + (3 - m)i = 16 - 3i$

10. $(7 + m) + (4\ell - 10)i = 3 - 6i$

11. **ELECTRICITY** The impedance in one part of a series circuit is $1 + 3j$ ohms and the impedance in another part of the circuit is $7 - 5j$ ohms. Add these complex numbers to find the total impedance in the circuit.

13. **ELECTRICITY** Using the formula $E = IZ$, find the voltage E in a circuit when the current I is $3 - j$ amps and the impedance Z is $3 + 2j$ ohms.