

Write the Polynomial Given the Roots Practice

Given these roots, write the original polynomial (don't forget that imaginary and complex roots have a conjugate! They come in pairs!) Assume $a=1$

1. Roots $x = -7$ and $x = 4$

$$y = x^2 + 3x - 28$$

2. Roots $x = 1, x = -3,$ and $x = -2$

$$y = x^3 + 4x^2 + 1x - 6$$

3. Root $x = -8i$

$$y = x^2 + 64$$

4. Root $x = 4 + i$

$$y = x^2 - 8x + 17$$

Unit 1 (4.2)

5. Roots $x = 2$ and $x = 6i$

$$y = x^3 - 2x^2 + 36x - 72$$

6. Roots $x = -5, x = 5 - 3i$

$$y = x^3 - 5x^2 - 16x + 170$$

7. Roots $x = 9i, x = 7$

$$y = x^3 - 7x^2 + 81x - 567$$

8. Roots $x = -11, x = -2 + 7i$

$$y = x^3 + 15x^2 + 97x + 583$$