

PC 3-1 Practice Problems

Students will review complex numbers and multiplication of radicals

1) Simplify $\sqrt{-1}$	2) Simplify $\sqrt{-5}$	3) Simplify $\sqrt{-10}$	4) Simplify $(i)(i)$	5) Simplify $(\sqrt{-5})(\sqrt{-10})$
6) Simplify $(\sqrt{4})(\sqrt{5})$	7) Simplify $\sqrt{(4)(5)}$	8) Simplify $\sqrt{20}$	9) Simplify $\sqrt{-20}$	10) Simplify i^3
11) Simplify $\sqrt{40}$	12) Simplify $\sqrt{50}$	13) Simplify $\sqrt{8}$	14) Simplify $\sqrt{12}$	15) Simplify $\sqrt{32}$
16) Simplify $\sqrt{-40}$	17) Simplify $\sqrt{-50}$	18) Simplify $\sqrt{-8}$	19) Simplify $\sqrt{-12}$	20) Simplify $\sqrt{-32}$
21) Simplify $(\sqrt{5})(\sqrt{5})$	22) Simplify $(\sqrt{3})(\sqrt{3})$	23) Simplify $(\sqrt{7})(\sqrt{7})$	24) Simplify $(\sqrt{-3})(\sqrt{-3})$	25) Simplify $(\sqrt{-7})(\sqrt{-7})$
26) Simplify $(i)(i)$	27) Simplify $(2i)(i)$	28) Simplify $(2i)(2i)$	29) Simplify $(-5i)(-5i)$	30) Simplify $(5i)(-5i)$
31) Multiply $(x + i)(x + i)$	32) Multiply $(x + 2i)(x + i)$	33) Multiply $(x + 2i)(x + 2i)$	34) Multiply $(x - 5i)(x - 5i)$	35) Multiply $(x + 5i)(x - 5i)$

Students will use the roots of a polynomial to construct the standard form equation of a polynomial.

<p>1) Given the roots, write the factors. Roots: $x = 5, x = 7$ Factors:</p>	<p>2) Given the roots, write the factors. Roots: $x = \sqrt{5}, x = -\sqrt{5}$ Factors:</p>	<p>3) Given the roots, write the factors. Roots: $x = 2i, x = -2i$ Factors:</p>	<p>4) Given the roots, write the factors. Roots: $x = 5, x = 7, x = -1$ Factors:</p>
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<p>5) Given the factored form, write the equation in standard form.</p>		<p>6) Given the roots, write the equation in factored and standard form.</p>	
<p>Factored Form: $(x+5)(x+7)$ Standard Form:</p>	<p>Factored Form: $(x+5)(x+7)$ Standard Form:</p>	<p>Roots: $x = 5, x = 7$ Factored Form: Standard Form:</p>	<p>Roots: $x = 2i, x = -2i$ Factored Form: Standard Form:</p>

Use the roots to write the equation of the polynomial in standard form.

<p>7) Roots: $x = 5, x = 3, x = 6$ Degree: 3</p>	<p>8) Roots: $x = -5i, x = 5i, x = 3$ Degree: 3</p>	<p>9) Roots: $x = -3i, x = 3i, x = -2$ Degree: 3</p>
<p>10) Roots: $x = -6i, x = 6i, x = 7$ Degree: 3</p>	<p>11) Roots: $x = -7i, x = 7i, x = 4$ Degree: 3</p>	<p>12) Roots: $x = -8i, x = 8i, x = 9$ Degree: 3</p>

