

Intermediate Algebra
Chapter 6 Test Review

1. Evaluate:

$25^{\frac{1}{2}}$	$8^{\frac{4}{3}}$
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2. Simplify:

$\sqrt{24}$	$\sqrt[3]{80}$
$\sqrt[4]{48}$	

3. Add or Subtract Radical Expressions:

$\sqrt{18} + 5\sqrt{8}$	$4\sqrt[3]{24x^4} - 2x\sqrt[3]{81x}$
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4. Multiply Radical Expressions:

$(\sqrt{x} - 2)^2$	$(\sqrt{x} - \sqrt{y})(\sqrt{x} + \sqrt{8y})$
$\sqrt{3}(\sqrt{12} - \sqrt{20})$	

5. Simplify:

$\frac{2}{\sqrt{3}}$	$\frac{7}{\sqrt{5x}}$
$\frac{1}{\sqrt[4]{2}}$	

6. Simplify:

$\frac{1}{\sqrt{x} - 2}$	$\frac{2}{\sqrt{3} - \sqrt{2}}$
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7. Solve:

$\sqrt{4x-1} = 3$	$\sqrt{2x+13} = x+5$
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8. Solve radical equations with 2 radicals

$\sqrt{2x+5} - \sqrt{x+2} = 1$	$\sqrt{3x-5} = 2\sqrt{7x-20}$
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9. Perform operations on complex numbers:

$(5 + i) - (3 + 2i)$	$(4 + 7i) + (1 + 8i)$
$(4 + i)(2 - i)$	$\frac{4}{5 - i}$
$\frac{3 + 2i}{4 + 3i}$	

10. Miscellaneous problems with imaginary numbers:

Simplify: $\sqrt{-27}$	Simplify: i^{301}
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