Algebra 2 Workbook

Imaginary numbers

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IMAGINARY NUMBERS

■ 1. Simplify the imaginary expression.

$$2 - 6i - 4 + 9i$$

■ 2. Simplify the imaginary expression.

$$-3 - 7i + 8 + 3i$$

■ 3. Simplify the imaginary expression.

$$\sqrt{-4} + ii + 5i - 2i^3$$

■ 4. Simplify the imaginary expression.

$$\sqrt{27} - 3ii + 2i - 7i^3 + \sqrt{-36}$$

■ 5. Simplify the imaginary expression.

$$\sqrt{-9} + 2i^3 + 6i - \sqrt{25}\sqrt{-25} - 2\sqrt{-16}$$

6. Simplify the imaginary expression.

$$\sqrt{-4} + 2i^4 + 6i^5 - \sqrt{-49} - 2i^6$$

RATIONALIZING COMPLEX DENOMINATORS

1. Use the conjugate method to simplify the imaginary expression.

$$\frac{2+6i}{3-i}$$

2. Use the conjugate method to simplify the imaginary expression.

$$\frac{5-2i}{7+3i}$$

3. Use the conjugate method to simplify the imaginary expression.

$$\frac{2-2i}{4i-1}$$

4. Use the conjugate method to simplify the imaginary expression.

$$\frac{3i+2i^2}{5i^3+4i^4}$$

5. Use the conjugate method to simplify the imaginary expression.

$$\frac{2i + 4i^2}{6 - 6i}$$

■ 6. Use the conjugate method to simplify the imaginary expression.

$$\frac{8i - 3i^2}{5i - 6i^2}$$

■ 7. Use the conjugate method to simplify the imaginary expression.

$$\frac{\sqrt{-5}\sqrt{-5} - 7i^3}{3 + i}$$

■ 8. Use the conjugate method to simplify the imaginary expression.

$$\frac{\sqrt{-2}\sqrt{-2} + 3i^3}{i - 4}$$

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