① GRAPHING QUADRATIC FUNCTIONS

Graph $y = -2(x+1)^2 + 3$. State the important characteristics.

② SOLVING QUADRATICS
1. $x^2 = 12x + 14$
2. $-3x^2 + 2x - 1 = 0$

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③ SOLVING QUADRATICS PART 2

1. $3x^2 + 18x = -60$
2. $0 = 18x^2 - 50$

$$2.\ 0 = x^2 - 2x - 35$$

$$1.\ 5 + 4(x + 3)^2 = 4$$

Solve

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$$\mathbf{1.}\ 5 + 4(x + 3)^2 = 4$$

$$\mathbf{2.}\ 0 = x^2 - 2x - 35$$

Simplify:

1. $(2-5i)(6+i)$ **2.** $(-3+i)-(9-2i)$

3. $\frac{4+9i}{2-2i}$ **4.** $(6+i)+(4-3i)$ **5.** $\frac{1}{4i}$

⑤ COMPLEX NUMBERS

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⑥ GRAPHING PART 2

Graph $f(x) = \frac{1}{3}(x-5)(x+1)$. State the important characteristics.

⑦ GRAPHING PART 3

Graph $f(x) = 2x^2 + 8x + 1$. State the important characteristics.

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® MODELING DROPPED AND LAUNCHED OBJECTS

(round your answers to the nearest 10^{th})

1. Find the time it takes for an object to hit the ground that is dropped from a height of 500 feet.

2. An object is launched upward at a velocity of 32 ft/s from a height of 266 feet. When is it 10 feet from the ground.

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⑨ FIND THE ERROR

Explain the error that was made in each problem, then find the correct answer:

1. Write in standard form: $\frac{5}{10+2i}$

$$\frac{5}{10+2i}\cdot\frac{(10-2i)}{(10-2i)}$$

$$=\frac{50-10i}{100-2i^2}$$

$$=\frac{50-10i}{100+2}$$

$$=\frac{50-10i}{102}$$

$$=\frac{25}{51}-\frac{5}{51}i$$

2. Find the zeros of the function $y = 2(x+2)^2 - 72$

$$y = 2(x+2)^2 - 72$$

$$0 = 2(x+2)^2 - 72$$

$$72 = 2(x+2)^2$$

$$36 = (x+2)^2$$

$$6 = (x+2)$$

$$x = 4$$