Activity 2.2: Complex Numbers & Parabolas

A

Name: _____ Partner's name: _____ Date: _____

Directions: Write complex answers in the form $a + bi$. Problem 6 uses a graph. Graphs are drawn accurately.
Work alone, then compare after each problem. If answers differ, find the mistake together.

1

Simplify i^{23}.

Answer: _____ Match? ☐ Yes ☐ No

2

Add: $(3 + 2i) + (1 - 5i)$.

Answer: _____ Match? ☐ Yes ☐ No

3

Multiply: $(2 + 3i)(1 - i)$.

Answer: _____ Match? ☐ Yes ☐ No

4

Simplify: $\dfrac{5 + 5i}{1 - 2i}$

Answer: _____ Match? ☐ Yes ☐ No

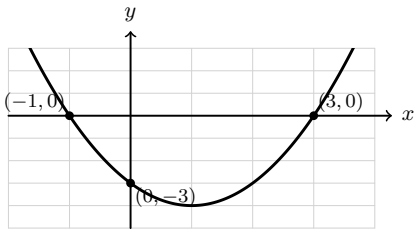
5

Find $|3 + 4i|$.

Answer: _____ Match? ☐ Yes ☐ No

6

Write the quadratic in standard form.



Answer: _____ Match? ☐ Yes ☐ No

7

Solve: $x^2 + 9 = 0$.

Answer: _____ Match? ☐ Yes ☐ No

8

Find the maximum value of $y = -x^2 + 6x - 5$.

Answer: _____ Match? ☐ Yes ☐ No

UNIT 2 • QUADRATICS & COMPLEX NUMBERS

Activity 2.2: Complex Numbers & Parabolas

B

Name: _____ Partner's name: _____ Date: _____

Directions: Write complex answers in the form $a + bi$. Problem 6 uses a graph. Graphs are drawn accurately.
Work alone, then compare after each problem. If answers differ, find the mistake together.

1

Simplify i^{47}.

Answer: _____ Match? ☐ Yes ☐ No

2

Add: $(7 - i) + (-3 - 2i)$.

Answer: _____ Match? ☐ Yes ☐ No

3

Multiply: $(1 + i)(3 - 2i)$.

Answer: _____ Match? ☐ Yes ☐ No

4

Simplify: $\dfrac{1 + 7i}{2 - i}$

Answer: _____ Match? ☐ Yes ☐ No

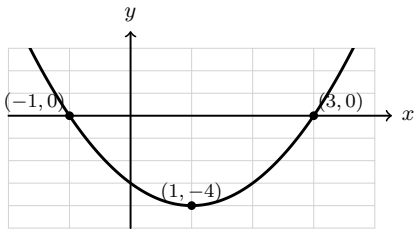
5

Find $|-3 - 4i|$.

Answer: _____ Match? ☐ Yes ☐ No

6

Write the quadratic in standard form.



Answer: _____ Match? ☐ Yes ☐ No

7

Solve: $2x^2 + 18 = 0$.

Answer: _____ Match? ☐ Yes ☐ No

8

Find the maximum value of $y = -2x^2 + 12x - 14$.

Answer: _____ Match? ☐ Yes ☐ No