Name

2-5B Lesson Master
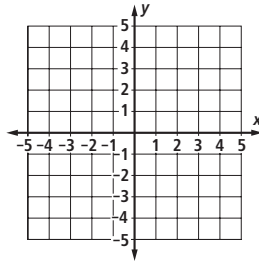
REPRESENTATIONS Objective I

In 1–3, consider the expressions $-x^3 - 1$ and $(-x)^3 - 1$.

1. Fill in the table. Do the expressions appear to be equivalent from the table?

_____

x	$-x^3 - 1$	$(-x)^3 - 1$
-2		
-1		
0		
1		
2		

2. Graph each expression. Do they appear to be equivalent?

_____

3. Simplify each expression to show whether or not they are equivalent.

In 4 and 5, consider the expressions $-2(11x + 4) + 13$ and $-4(5x - 1) - (2x + 1)$.

4. Fill in the table. Do the expressions appear to be equivalent from the table?

_____

x	$-2(11x + 4) + 13$	$-4(5x - 1) - (2x + 1)$
-2		
-1		
0		
1		
2		

5. Simplify each expression to show whether or not they are equivalent. If they are not equivalent, give a counterexample to support your claim.

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6. Simplify the expressions $2x(2x^2 - x) + 4(x + 1) - x$ and $4(x^3 + 1) - x(2x - 3)$ to show whether or not they are equivalent.

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Name _____

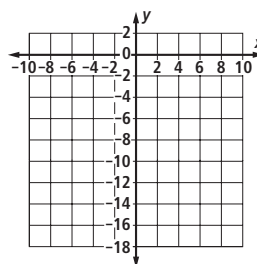**2-5B**   **page 2**

REPRESENTATIONS   Objectives I and J

In 7–9, consider the expressions $-(2x)^2 - 4$ and $-2x^2 - 4$.

7. Fill in the table. Do the expressions appear to be equivalent from the table?

   _____

x	$-(2x)^2 - 4$	$-2x^2 - 4$
-2		
-1		
0		
1		
2		

8. Graph each expression. Do they appear to be equivalent?

   _____

9. Simplify each expression to show whether or not they are equivalent.

   _____

In 10 and 11, write two equivalent expressions for the perimeter of the given figure. Verify that the two expressions are equivalent by using a table, graph or simplifying each expression.

10. Consider a hexagon with side length $5s + 3$. Assume the hexagon is regular.

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11. Consider a rectangular garden plot that has length $6x - 3$ and width $9x + 4$.

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    _____

12. Simplify the expressions $3x^4(x - 1) - x(-3x^3 - 4) - 3x^5$ and $3x^2(x^3 - 2) + 2x^2 - 3x^5$ to show whether or not they are equivalent.

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