Name: _____

Practice & Problem Solving ✏️ ⏻

Leveled Practice In **16–26**, combine like terms to simplify each expression.

16. $2.1x^2 + 3 - 0.5x^2 - 1$

$= (\boxed{}x^2 - \boxed{}x^2) + (3 - 1)$

$= \boxed{}x^2 + \boxed{}$

17. $\frac{2}{3}n + 6 + 3n - \frac{2}{3}$

$= (\boxed{}n + \boxed{}n) + (\boxed{} - \boxed{})$

$= \boxed{}n + \boxed{}$

18. $5 + 3w + 3 - w$

19. $5w - 5w$

20. $2x + 5 + 3x + 6$

21. $\frac{3}{4}z^3 + 4 - \frac{1}{4}z^3$

22. $3.4m + 2.4m$

23. $4.2n + 5 - 3.2n$

24. $q^5 + q^5 + q^5$

25. $3x + \frac{1}{4} + 2y + \frac{1}{4} + 7x - y$

26. $1.5z^2 + 4.5 + 6z - 0.3 - 3z + z^2$

27. Use Structure Use the table at the right. Yolanda is planning a party that will take place in three rooms.

a. Write an expression that can be used to represent the total amount Yolanda will need to rent all three rooms and the sound system for t hours.
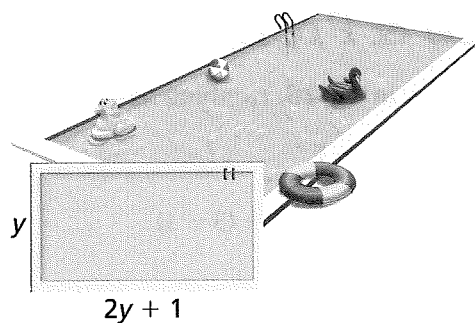
Room	Rental Fee (per hour)	Sound System Fee
1	$25	$15
2	$20	$10
3	$50	no charge

b. How can you use a property to write a simplified equivalent expression?

In 28–30, use the diagram at the right.

28. Write an algebraic expression for the perimeter of the swimming pool.

$2y + 1$

29. **Use Structure** Write a new expression equivalent to the expression you wrote for Exercise 28.

30. Justify that the two expressions are equivalent.

31. Rodney rewrote the expression $\frac{1}{2}(2x + 7)$ as $x + 3\frac{1}{2}$. Which property of operations did Rodney use?

32. **Construct Arguments** Annie said that she simplified the expression $6.5(x + 0.5x + 1)$ by writing the equivalent expression $6.5x + 3.25x + 6.5$. Do you agree? Explain.

33. **Critique Reasoning** Thea said that the expressions $4x - 3x + 2$ and $x + 2$ are equivalent. Is Thea correct? Explain.

34. **Higher Order Thinking** Write an equivalent expression for the expression shown below.
$$\frac{a}{3} + \frac{a}{3} + \frac{a}{3}$$

Assessment Practice

35. Write each expression below in the correct column in the table at the right to show whether the expression is equivalent to $2x + 7 + 6x - x$.

$2x + 13$ $7 + 7x$ $14x$ $7x + 7$

Equivalent to $2x + 7 + 6x - x$	NOT Equivalent to $2x + 7 + 6x - x$