6.2a Homework: Simplifying Algebraic Expressions Part I

1. Identify the terms, constants, coefficients, and like terms in each algebraic expression. The first one has been done for you.

Expression	Terms	Constants	Coefficients	Like Terms
a. $3x + x + 13 + 5$	$3x, x, 13, 5$	$13, 5$	$3, 1$	$3x$ and x 13 and 5
b. $2y + 10 + 3y + 4$				
c. $11 + 0.04c + c$				
d. $3x + 2y + 5x + 7y$				
e. $2(3x) + 7x + 13$				

2. Simplify the expressions from above.

a. _____

b. _____

c. _____

d. _____

e. _____

Directions: Simplify each expression. If the expression is already simplified, write "already simplified".

3. $y + y + y$	4. $15 + s + s + s + s$	5. $3a + 8 + 8a + 6$
6. $15x - 5$	7. $3x + 8 + 4x - 3$	8. $x + 3 + 3x + 3y$
9. $15 + 6b - 7$	10. $r + 2r + 3r$	11. $2x + 1$
12. $x + y + z$	13. $4t + 10 + 9t - 1$	14. $9x - 4x + 2x$
15. $9x - (4x + 2x)$	16. $2(5x) + 3(4x)$	17. $5(3x) + 5(9)$
18. $3(6x) - 2$	19. $7(2x + x + x + x)$	20. $4r + 2(7r)$
21. $3 + 15b - 8b$	22. $\frac{1}{6}y + \frac{2}{3}y$	23. $1\frac{1}{5}a + \frac{3}{10}a + 2\frac{1}{4}$
24. $0.25x + \frac{3}{4}x$	25. $y - 0.1y$	26. $0.45g + g$
27. $c - c$	28. $\frac{3}{5}d + \frac{7}{10} + 0.1d + \frac{1}{20}$	29. $6\frac{2}{5}q - q$
30. $4(5x) - 20$	31. $(x + 1) + (x + 1)$	32. $(4x + 1) + (4x + 1)$
33. $y + 0.1y + 0.01y + 0.001y + 0.0001y$		
34. $5(d) + 4(0.1d) + 3(0.01d) + 2(0.001d) + 0.0001d$		

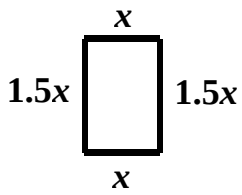
35. Write three expressions equivalent to the expression $4c$.

36. Write three expressions equivalent to the expression $6b + 5$.

37. Write three expressions equivalent to the expression $\frac{5}{8}k$.

Directions: Write several expressions to represent the perimeter of each object. Simplify each expression to show they are equivalent.

38.



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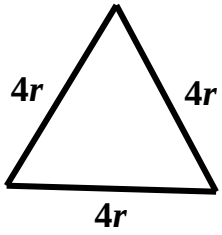

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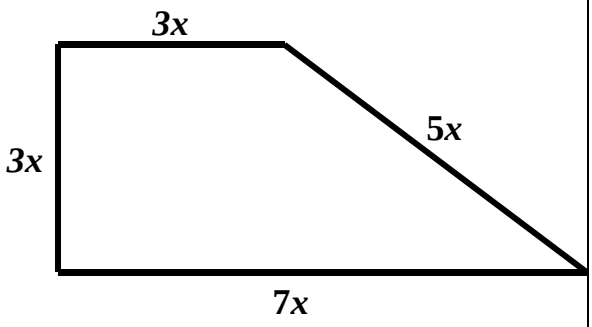

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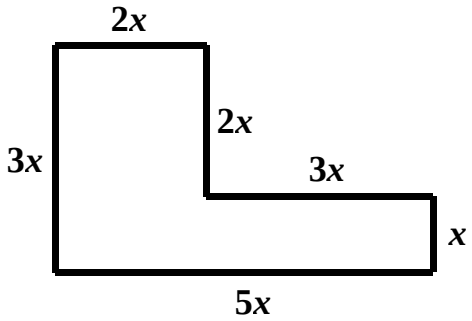


42. Write your own algebraic expression with four terms that is not simplified. Then, simply the expression.

6.2b Class Activity: Numeric Expressions and the Distributive Property

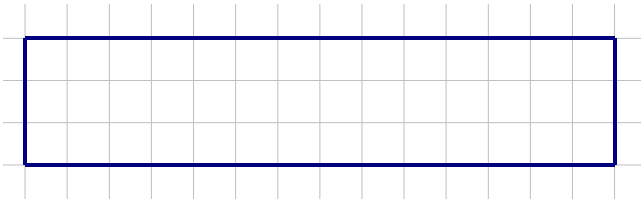
Activity 1: 

a. Luca is buying practice uniforms for soccer. Each jersey costs $20 and each pair of shorts costs $30. He purchases two practice jerseys and two pairs of practice shorts. Write an expression that can be used to represent the total amount Luca spends on practice uniforms. Then, simplify the expression to show the total amount Luca spends on practice uniforms.

b. Hannah is purchasing CDs at a local music store. The CDs normally cost $12 each. The store is offering a discount of $2 off each CD if you buy 4 or more. Hannah is planning to buy 5 CDs. Write an expression to represent the cost before tax of Hannah's purchase.

Activity 2:

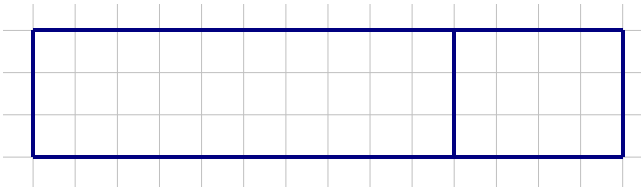
a. Xavier and Penelope were asked to find the area of the rectangle shown below.



Xavier found the height of the rectangle (3) and multiplied it by the base of the rectangle (14) and multiplied the two numbers together and found the answer to be 42 square units:

$3(14) = 42$

Penelope started by cutting the rectangle into two smaller rectangles:



Then, she found the area of each of the smaller rectangles:

$3(10 + 4)$
$3(10) + 3(4)$
$30 + 12$
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