Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period: \_\_\_\_\_\_

**The Distributive Property**

How many ways can you write 5(83)? Rewrite the problem in as many ways as you can:

***The Distributive Property***

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Expand using the distributive property.

1. 3(2*x* + 4)
   1. 3(*x* + 1)
   2. (*x* – 2)7
   3. (2 + 5*x*)3
   4. 4(2 – d)
2. -5(*x* + 8)
   1. -6(*x* + 3)
   2. (*t* + 2)(-3)
   3. –(1 – *x*)
   4. (2x – 3)(–4x)
3. Find the area of a rectangle whose width is 5 and whose length is *x* + 7.

**Vocabulary:**

|  |  |  |
| --- | --- | --- |
|  | **Definition** | **Examples** |
| **Terms** |  |  |
| **Coefficient** |  |  |
| **Constant term** |  |  |
| **Like terms** |  |  |

Identify the terms, like terms, coefficients, and constant terms in each expression.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Expression** | **Terms** | **Like terms** | **Coefficients** | **Constant terms** |
| -2*x* – 8 + 6*x* + 5 |  |  |  |  |
| 2 + 3*xy* – 4*xy* + 6 |  |  |  |  |

Add like terms.

1. -4*x* – 5*x*
2. 7(*w* – 5) + 3*w*
3. -2 – (*x* + 5)

Simplify.

5(3*y* + 7) – 2(5 – 9*y*)

Find the perimeter and area of the rectangle.

–0.6

*x* + 3

Solve each equation. Round the answers to the nearest hundredths place if necessary.

1. 2.3*x* + 1.2 + 2.5*x* = 9.2 - 4.3*x*
2. 3.8(*x* + 0.4) = 1.14
3. *x* + 0.8 = 9.2(*x* + 0.2)
4. 2.25(*x* - 4.2) = *x* + 3.28
5. 12 + 5*x* – 8 = 12*x* – 10
6. 5*x* = 2(3*x* + 5)
7. *x* + 2 = 2(*x* – 3)
8. 2(3*x* – 4) = 3*x* + 1
9. 3*x* = 5(*x* + 3) – 3
10. 3(*x* – 5) = 2(*x* + 2)
11. 3*x* – 1 = 4(3*x* + 2)
12. 3(5*x* - 2) + 4*x* = 9*x* + 6 - 2*x*
13. 5*x* + 6 = 4(3*x* – 2)
14. 6(2*x* – 3) = 4(3*x* + 2)
15. 3(2*x* + 1) = 3(4*x* + 5) – 2(3*x* + 6)