**ALGEBRA ONE NAME: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**MULTIPLYING BINOMIALS PRACTICE**

Find each product

1. (n – 12)2 2. (12n)2

* What is the difference in number 1 and number 2? Why do we do them differently?

3. (9x + 3)(9x +3) 4. (9x + 3)(9x -3)

5. The answer for number 3 is a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ while the answer for number 4 is a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. Why does this happen?

6. (4 – 6h)2 7. (m + 7n)2

8. (3a2 – b2)2 9. (3a2 – b2)(3a2 + b2)

10. (x – 2)(3x2 – 5x + 4) HINT: distribute the x and the -2 to everything inside the 2nd parentheses

Solve.

11. -x(x - 6) + 16 = 5(3x – 4) – x2

12. Sarah is multiplying monomials using an area model. Fill in the missing values for her.

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

|  |  |
| --- | --- |
| $$4x^{2}$$ |  \_\_\_\_\_ |
|  24x |  30 |

 x

 6

16. The length of a rectangle is three times the width of the rectangle. If the width of the rectangle is $y$ units, what is the area of the rectangle?

1. $3y units^{2}$
2. $3y^{2} units^{2}$
3. $y+3 units^{2}$
4. $3y\left(y+3\right) units^{2}$

17. Write the expression (in simplified form) that represents the shaded region of the rectangle, where the larger rectangle has side lengths of 4x and x+2 and the smaller rectangle has side lengths of x and x+1.

18. The base of a triangle is represented by $x-4$ and the height is represented by $x+4.$ Draw a picture of the scenario and choose the expression below that represents the area of the triangle.

1. $x^{2}-16$
2. $\frac{1}{2}x^{2}+4x-8$
3. $x^{2}+8x-16$
4. $\frac{1}{2}x^{2}-8$

19. Fill in the blank.

 ( \_\_\_ )($4x^{2}+x-5)=12x^{2}+3x-15$