

Name: Key

Show work needed to justify your answer.

Date: _____

HW # 58: Algebra 1 - Standard 37 - Multiply Polynomials

5 points

Find each product. "FOIL"

1. $(3c - 5)(c + 3)$

$$3c^2 + 9c - 5c - 15$$

$$\boxed{3c^2 + 4c - 15}$$

2. $(g + 10)(2g - 5)$

$$2g^2 - 5g + 20g - 50$$

$$\boxed{2g^2 + 15g - 50}$$

3. $(6a + 5)(5a + 3)$

$$30a^2 + 18a + 25a + 15$$

$$\boxed{30a^2 + 43a + 15}$$

4. $(4x + 1)(6x + 3)$

$$24x^2 + 12x + 6x + 3$$

$$\boxed{24x^2 + 18x + 3}$$

5. $(5y - 4)(3y - 1)$

$$15y^2 - 5y - 12y + 4$$

$$\boxed{15y^2 - 17y + 4}$$

6. $(6d - 5)(4d - 7)$

$$24d^2 - 42d - 20d + 35$$

$$\boxed{24d^2 - 62d + 35}$$

7. $(3m + 5)(2m + 3)$

$$6m^2 + 9m + 10m + 15$$

$$\boxed{6m^2 + 19m + 15}$$

8. $(7n - 6)(7n - 6)$

$$49n^2 - 42n - 42n + 36$$

$$\boxed{49n^2 - 84n + 36}$$

9. $(12t - 5)(12t + 5)$

$$144t^2 + 60t - 60t - 25$$

$$\boxed{144t^2 - 25}$$

10. $(5r + 7)(5r - 7)$

$$25r^2 - 35r + 35r - 49$$

$$\boxed{25r^2 - 49}$$

11. $(8w + 4x)(5w - 6x)$

$$40w^2 - 48wx + 20wx - 24x^2$$

$$\boxed{40w^2 - 28wx - 24x^2}$$

12. $(11z - 5y)(3z + 2y)$

$$33z^2 + 22yz - 15yz - 10y^2$$

$$\boxed{33z^2 + 7yz - 10y^2}$$

13. **PLAYGROUND** The dimensions of a playground are represented by a width of $9x + 1$ feet and a length of $5x - 2$ feet. Write an expression that represents the area of the playground.

$$(9x+1)(5x-2)$$

$$45x^2 - 18x + 5x - 2$$

$$\rightarrow \boxed{45x^2 - 13x - 2}$$