Principles of Algebra Name/Date Clee / Today

ALL PROBLEMS CAN BE COMPLETED ON THIS WORKSHEET

WS 2D.2 – More Multiplying & Dividing Algebraic Expressions

#1-14, Simplify each expression.

1. $8y + 4y$

$= \boxed{12y}$

2. $8y \cdot 4y$

$= \boxed{32y^2}$

3. $a + a + a + a$

$= \boxed{4a}$

4. $a \cdot a \cdot a \cdot a$

$= \boxed{a^4}$

5. $-5(3q - 1)$

$= \boxed{-15q + 5}$

6. $-5q(3q - 1)$

$= \boxed{-15q^2 + 5q}$

7. $10(4 + 3r) + 1$

$= 40 + 30r + 1$

$= \boxed{41 + 30r}$

8. $10r(4 + 3r) + 1$

$= \boxed{40r + 30r^2 + 1}$

9. $-3mn \cdot 2mn - 4mn \cdot 5mn$

$= -6m^2n^2 - 20m^2n^2$

$= \boxed{-26m^2n^2}$

10. $-5z(4 - 2z) + 5z^2 + 12z$

$= -20z + 10z^2 + 5z^2 + 12z$

$= \boxed{-8z + 15z^2}$

11. $5p(7p + 11) - 5p(7p + 11)$

$= 35p^2 + 55p - 35p^2 - 55p$

$= \boxed{0}$

12. $\dfrac{6a - 9b + 15c}{3}$

$= \dfrac{6a}{3} - \dfrac{9b}{3} + \dfrac{15c}{3}$

$= \boxed{2a - 3b + 5c}$

13. $\dfrac{3q(4 - 6q) - q(-4 + 12q)}{-2}$

$= \dfrac{12q - 18q^2 + 4q - 12q^2}{-2}$

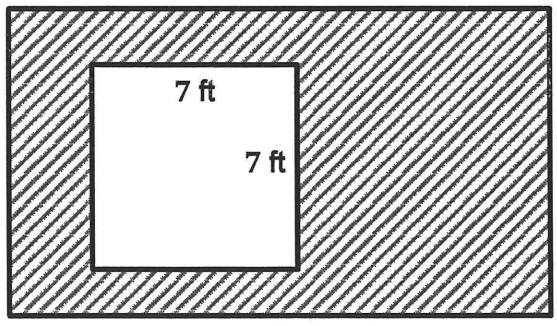
$= \dfrac{16q - 30q^2}{-2} = \boxed{-8q + 15q^2}$

14. $\dfrac{8r - 6r(5 - 3r) + 11r^2 - 2r}{-1}$

$= \dfrac{8r - 30r + 18r^2 + 11r^2 - 2r}{-1}$

$= \dfrac{-24r + 29r^2}{-1} = \boxed{24r - 29r^2}$

15. **Find the area of the shaded region. Be sure to use correct units in your answer.**



$A_{region} = A_{rectangle} - A_{square}$

$A_{region} = 15\,ft \cdot 10\,ft - 7\,ft \cdot 7\,ft$

$A_{region} = 150\,ft^2 - 49\,ft^2$

$\boxed{A_{region} = 101\,ft^2}$