Principles of Algebra Name/Date Clee / Today

ALL PROBLEMS CAN BE COMPLETED ON THIS WORKSHEET

WS 2D.1 – Multiplying & Dividing Algebraic Expressions

#1-14, Simplify each expression.

1. $2x + 3x$

$= 5x$

2. $2x \cdot 3x$

$= 6x^2$

3. $n + n + n + n + n$

$= 5n$

4. $n \cdot n \cdot n \cdot n \cdot n$

$= n^5$

5. $4(5z + 2)$

$= 20z + 8$

6. $4z(5z + 2)$

$= 20z^2 + 8z$

7. $1 - 8(r - 3)$

$= 1 - 8r + 24$

$= 25 - 8r$

8. $1 - 8r(r - 3)$

$= 1 - 8r^2 + 24r$

9. $8h^2 - 10h(2 - h) + 5h$

$= 8h^2 - 20h + 10h^2 + 5h$

$= 18h^2 - 15h$

10. $4a \cdot 3a + 5a \cdot 2a - 3a \cdot 6a$

$= 12a^2 + 10a^2 - 18a^2$

$= 4a^2$

Don't forget PEMDAS!

11. $3y(2y - 9) + y(10 + y)$

$= 6y^2 - 27y + 10y + y^2$

$= 7y^2 - 17y$

12. $\dfrac{12x + 20y - 8z}{4}$

$= \dfrac{12x}{4} + \dfrac{20y}{4} - \dfrac{8z}{4}$

$= 3x + 5y - 2z$

13. $\dfrac{2x(3x + 7) - 3x(4 - 2x)}{2}$

$= \dfrac{6x^2 + 14x - 12x + 6x^2}{2}$

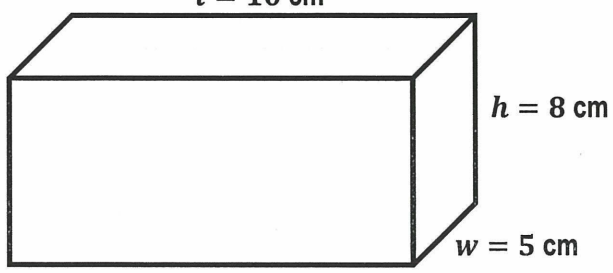
$= \dfrac{12x^2 + 2x}{2} = 6x^2 + x$

14. $\dfrac{15w^2 - 30w - 9w(1 - 2w)}{-3}$

$= \dfrac{15w^2 - 30w - 9w + 18w^2}{-3}$

$= \dfrac{33w^2 - 39w}{-3} = -11w^2 + 13w$

15. The formula for the volume of a rectangular prism is $V = lwh$, where l, w, and h are the length, width, and height of the prism, respectively. Find the volume of the rectangular prism shown. Be sure to use correct units in your answer.



$V = lwh$

$V = 10\text{ cm} \cdot 5\text{cm} \cdot 8\text{ cm}$

$V = 400\text{ cm}^3$