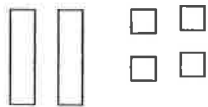
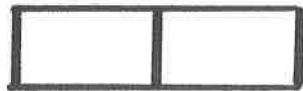
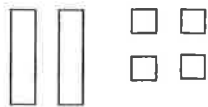


Multiplying Polynomials Lesson

Multiplying a Polynomial by a Monomial Notes

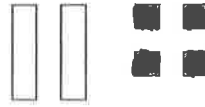
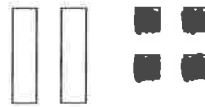
Use algebra tiles to model and simplify.

$$2(2x + 4)$$



$$4x + 8$$

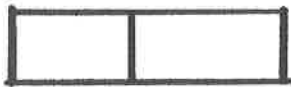
$$2(2x - 4)$$



$$4x - 8$$

Find each product.

$$-3(8x + 5)$$



$$2. \quad 3b(5b + 8)$$



$$3. \quad 11a(2a + 7)$$



$$4. \quad \frac{1}{2}x(8x - 6)$$

$$5. \quad 7xy(5x^2 - y^2)$$

$$6. \quad 5y(y^2 - 3y + 6)$$



$$7. \quad -ab(3b^2 + 4ab - 6a^2)$$

$$8. \quad 4m^2(9m^2n + mn - 5n^2)$$

$$9. \quad -\frac{1}{3}x(9x^2 + 3x - 6)$$



Simplify.

$$10. \quad a(3a + 2) + 8(a - 4)$$

$$11. \quad 3x(4x - 2) + 6(2x^2 + 3x)$$



12. $4r(2r^2 - 3r + 5) + 6r(4r^2)$

13. $2b(b^2 + 8) - 3b(3b^2 + 9b)$

Solve.

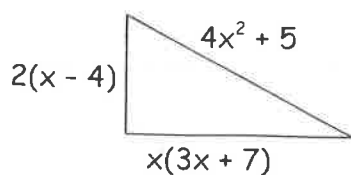
14. Find the area of a rectangle with a length of $(4x^2)$ and a width of $(x + 6)$.

15. Find the perimeter of a rectangle with a length of $25x^4y^8$ and a width of $(-x)^4y^2$.

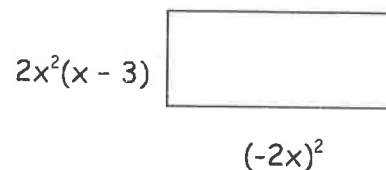
16. Leanne feeds her horse $(4x^3 - 2)$ apples each week. How many apples does Leanne's horse eat over $16x^4y^4$ weeks?

17. Kelly visits $2y^3$ hours with her friends each day. How many hours does she visit with her friends in $(3x^2y - 4y)$ days?

18. Find the perimeter of the triangle below.



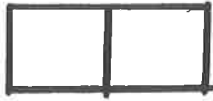
19. Find the area of the rectangle.



Multiplying a Polynomial by a Monomial Assignment

Find each product.

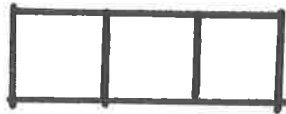
1. $6(4a + 3)$



2. $-7(11c - 4)$

3. $-4ay(ay - ab)$

4. $7(5 - 2c + c^2)$

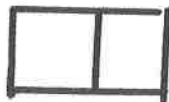


5. $3x(5x^2 - x + 4)$

6. $2m(7m^3 + 5m^2 - m)$

Simplify.

7. $5w(w^2 - 7w + 3) + 2w(2 + 19w)$



8. $6g(2g - 3) - 5(2g^2 + 9g - 3)$

9. $(7a - 2) - (12a - 3)$

10. $(6x^2 - 2x - 12) - (-7x^2 + 2x - 12)$

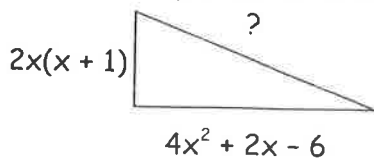
Solve.

11. Find the area of a rectangle with a length of $(3x^3y)$ and a width of $(2xy + x^5)$.

12. Find the perimeter of a rectangle with a length of $(3a^2 - 2)$ and a width of $(5a^2 + 6)$.

13. Angie talks on the phone $(3x^4y + xy^5)$ hours each week. How many hours does she talk on the phone over a period of $4x^4$ weeks?

14. Find the missing side of the triangle if the perimeter is $9x^2 - 2x - 4$.



15. Find the missing side of the rectangle if the perimeter is $30x^2 - 78x + 12$.

