

## Adding and Subtracting Polynomials

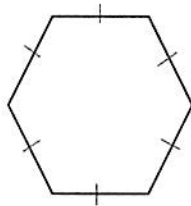
$3x^2 + 4x - 9 + 6x^2 - 6x + 12$	$-3x^2 + 8x + 6 + 8x^2 - 12x - 8$
$6x^2 + 3x - 9 - 4x^2 - 3x + 13$	$(3x^2 + 8x - 7) + (-5x^2 + 3x + 4)$
$(-2x^2 + 7x - 10) + (3x^2 - 4x - 4)$	$(5x^2 + 4x + 2) + (x^2 + x - 4)$
$(3x^2 + 5x + 11) - (5x^2 - 2x + 6)$	$(6x^2 - 6x + 10) - (4x^2 + 3x - 2)$
$(5n^2 + 14n - 5) - (7n^2 + 6n - 8)$	$(-3n^2 - 8n + 9) - (-3n^2 + 4n - 4)$

## Multiplying and Dividing Polynomials

$3(5r)$	$-3(5r)$
$-3(x^2 + 8x - 5)$	$-2x(3x^2 + 6x - 5)$
$-5(-3r)$	$4(-7x + 12)$
$2x(-3x + xy + 3y)$	$5w(-3w^2 + 4w - 1)$
$\frac{4n^2 + 16n + 20}{4}$	$\frac{12k}{4}$
$-\frac{12k}{6}$	$\frac{(-8a^2 + 16a - 32)}{-8}$
$\frac{16x^3 + 4x^2 + 8x}{4x}$	$\frac{24x^5 + 28x^4 - 36x^3}{4x^2}$

1.

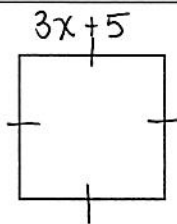
The following regular hexagon has a perimeter of  $18x+36$ . Write an expression for the length of one side and simplify.



2.

Each side of the following square is  $3x+5$ .

- a. Write the expression for the perimeter of the square

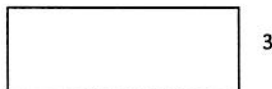


3.

Write an expression for the area of a rectangle and then simplify.

$$A = \text{base} \times \text{height}$$

$$2x+4$$

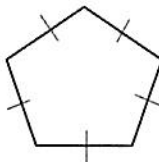


Write an expression for the perimeter of the rectangle and then simplify.

$$P = \text{side} + \text{side} + \text{side} + \text{side}$$

4.

Write an expression for the length of each side of this regular pentagon, then simplify. The perimeter of the pentagon is  $10x+20$



## Adding and Subtracting Polynomials

$3x^2 + 4x - 9 + 6x^2 - 6x + 12$ $9x^2 - 2x + 3$	$-3x^2 + 8x + 6 + 8x^2 - 12x - 8$ $5x^2 - 4x - 2$
$6x^2 + 3x - 9 - 4x^2 - 3x + 13$ $2x^2 + 4$	$(3x^2 + 8x - 7) + (-5x^2 + 3x + 4)$ $-2x^2 + 11x - 3$
$(-2x^2 + 7x - 10) + (3x^2 - 4x - 4)$ $x^2 + 3x - 14$	$(5x^2 + 4x + 2) + (x^2 + x - 4)$ $6x^2 + 5x - 2$
$(3x^2 + 5x + 11) - (5x^2 - 2x + 6)$ $(3x^2 + 5x + 11) + (-5x^2 + 2x - 6)$ $-2x^2 + 7x + 5$	$(6x^2 - 6x + 10) - (4x^2 + 3x - 2)$ $(6x^2 - 6x + 10) + (-4x^2 - 3x + 2)$ $2x^2 - 9x + 12$
$(5n^2 + 14n - 5) - (7n^2 + 6n - 8)$ $(5n^2 + 14n - 5) + (-7n^2 - 6n + 8)$ $-2n^2 + 8n + 3$	$(-3n^2 - 8n + 9) - (-3n^2 + 4n - 4)$ $(-3n^2 - 8n + 9) + (3n^2 - 4n + 4)$ $-12n + 13$

$$\frac{12}{4} = 3$$

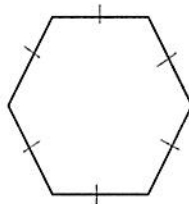
## Multiplying and Dividing Polynomials

$3(5r)$ $15r$	$-3(5r)$ $-15r$
$-3(x^2 + 8x - 5)$ $-3x^2 - 24x + 15$	$-2x(3x^2 + 6x - 5)$ $-6x^3 - 12x^2 + 10x$
$-5(-3r)$ $+15r$	$4(-7x + 12)$ $-28x + 48$
$2x(-3x + xy + 3y)$ $-6x^2 + 2x^2y + 6xy$	$5w(-3w^2 + 4w - 1)$ $-15w^3 + 20w^2 - 5w$
$\frac{4n^2 + 16n + 20}{4}$ $n^2 + 4n + 5$	$\frac{12k}{4}$ $3k$
$-\frac{12k}{6}$ $-2k$	$\frac{(-8a^2 + 16a - 32)}{-8}$ $a^2 - 2a + 4$
$\frac{16x^3 + 4x^2 + 8x}{4x}$ $4x^2 + x + 2$	$\frac{24x^5 + 28x^4 - 36x^3}{4x^2}$ $6x^3 + 7x^2 - 9x$

1.

The following regular hexagon has a perimeter of  $18x+36$ . Write an expression for the length of one side and simplify.

$$\frac{18x+36}{6} = \boxed{3x+6}$$



2.

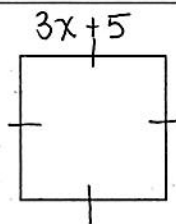
Each side of the following square is  $3x+5$ .

a. Write the expression for the perimeter of the square

$$(3x+5)4 = \boxed{12x+20}$$

OR

$$(3x+5) + (3x+5) + (3x+5) + (3x+5)$$



3.

Write an expression for the area of a rectangle and then simplify.

$A = \text{base} \times \text{height}$

$$3(2x+4) = \boxed{6x+12}$$

Write an expression for the perimeter of the rectangle and then simplify.

$P = \text{side} + \text{side} + \text{side} + \text{side}$

$$(2x+4) + (2x+4) + (3) + (3) \quad \boxed{\text{OR}} \quad 2(2x+4) + 2(3)$$

$$= \boxed{4x+14} \quad \underline{\underline{4x+8+6}} \quad \boxed{4x+14}$$

$2x+4$



4.

Write an expression for the length of each side of this regular pentagon, then simplify. The perimeter of the pentagon is  $10x+20$

$$\frac{10x+20}{5} = \boxed{2x+4}$$

