2.1 Add and Subtract Polynomials

Feb 20

Polynomial-expression involving several terms

monomial $3x$

binomial $3x+2$

trinomial $3x^2+2x-5$

} Polynomials

Like terms - terms with the same variable portion to the same degree

↳ exponent

ex. $3x, 5x$

$2x^2, 7x^2$

$3x^2y, -x^2y$

$5x, 7x^2$ — Like

ex. f(x)=2x-1, g(x)=-5x+7. Determine an expression for f(x)+g(x).

$$f(x)+g(x) = (2x-1)+(-5x+7)$$
$$= 2x-5x-1+7$$
$$= -3x+6$$

ex. Determine if the following expressions are equivalent

$-x^2y$

$x^2-3xy+y^2+3y^2-2x^2+xy$

$= x^2-2x^2-3xy+xy+y^2+3y^2$

$= -x^2-2xy+4y^2$

$5x^2y-x^2-2xy-4x^2y-y^2-yx^2+5y^2$

$5x^2y-4x^2y-x^2y-x^2-2xy-y^2+5y^2$

$= -x^2-2xy+4y^2$

∴ YES, THEY ARE EQUIVALENT

ex. Simplify each expression

$(3a-2b+c)+(a-5b-4c)$

$= 4a - 7b - 3c$

$(2x^2-5x+1)-(5x^2-2x+3)$

$= 2x^2 - 5x + 1 - 5x^2 + 2x - 3$

$= -3x^2 - 3x - 2$

$\left(\frac{2}{3}x-\frac{4}{3}y+1\right)-\left(4x+\frac{1}{2}y-9\right)$

$= \frac{2}{3}x - \frac{4}{3}y + 1 - 4x - \frac{1}{2}y + 9$

$= \frac{2}{3}x - 4x - \frac{4}{3}y - \frac{1}{2}y + 1 + 9$

$= -\frac{10}{3}x - \frac{11}{6}y + 10$

Rough

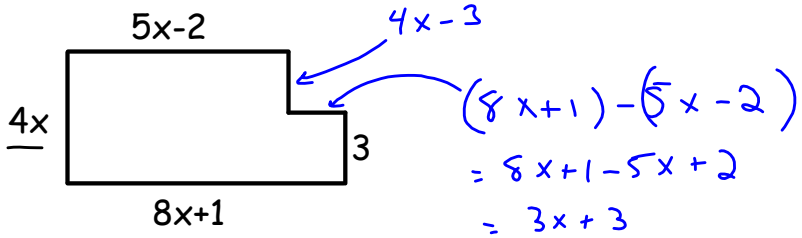
$\frac{2}{3} - 4$

$\frac{2 - 12}{3} = -\frac{10}{3}$

$-\frac{4}{3} - \frac{1}{2}$

$\frac{-8 - 3}{6} = -\frac{11}{6}$

ex) Determine an expression for the perimeter of the following figure.



$(8x+1)-(5x-2)$

$= 8x + 1 - 5x + 2$

$= 3x + 3$

$P = (4x) + (5x-2) + (4x-3) + (3x+3) + (3) + (8x+1)$

$\therefore P = 24x + 2$

Homework p88 #1,2,4-6,8,11,12