decreased by y is less than 3a.

22.7.22

Ex-18(B)

1 separated the constants and the variables form each of the following

$6, 4y, -3x, \frac{5}{4}, \frac{4}{5}xy, a2, 7p, 0, \frac{9x}{y}, \frac{3}{4x}, \frac{-x2}{3y}$

solution: 6, 5/4 and 0 are the constants

4y, -3x, (4/5)xy, a2, 7p, 9x/y, 3/4x and, -x2 are the variables

2. Group the like term together:

(i) 4x, -3y, -x, 2x, 4y and y.

(ii) (2/3)xy, -4yx, 2yz, (-2/3)yz, (2y/3) and yx.

(iii) $-ab^2, b^2a^2, 7b^2a, -3a^2b^2$ and $2ab^2$

(iv) 5ax, -5by, by/7, 7xa and (2ax/3)

i- 4x, -3y, x, (2/3)x, (4/5)y and y

Here the like term are as follows.

(2/3)xy, -4yx, yx and 2yz, (-2/3)yz, 6y/3

ii- (2/3)xy, -4yx, 2yz, (-2/3)yz, 2y/3 and yx

Here the like term are as follows.

(2/3)xy, -4yx, yx and 2yz, (-2/3)x2, zy/3

iii- $-ab^2, b^2a^2, 7b^2a, -3a^2b^2$ and $2ab^2$
Here the like terms are as follows
$-ab^2, b^2a^2, 7b^2a$ and $b^2a^2, -3a^2b^2$

iv- $5ax, -5by, by/7, 7xa$ and $2ax$
Here the like terms are as follows
$5ax, 7xa, 2ax/3$ and $-5by/7$

3. State whether true or false:

(i) 16 is a contant and y is a variable, but 16y is variable.
(ii) 5x has two terms 5 and x.
(iii) The expression 5xX has two terms 5 and
(iv) The expression $2x^2 + X$ is a trinomial.
(v) $ax^2 + bx - c$ is a trinomial.
(vi) 8x ab is a binomial.
(vii) 8 + ab is a binomial.
(viii) $x^3 - 5xy + 6x + 7$ is a polynomial.
(ix) $x3 - 5xy + 6x + 7$ is a multinomial.
(x) The coefficient of x in 5x is 5x.
(xi) The coefficient of ab in $-ab$ is -1.
(xii) The coefficient of xy in $-3xy$ is -3.

solution:

i- True
ii- false
iii- True
iv- false
v- True
vi- false
vii- True
viii- True
ix- True
x- false
xi- True
xii- false

4. State the number of terms in each of the following expressions:

(i) $2a-b$
(ii) $3x \times X + a/2$
(iii) $3X \times - X/P$
(iv) $a \div X \times b + 2$
(v) $3x \div 2 + Y + 4$
(vi) $X_y \div 2$
(vii) $X + y \div a$
(viii) $2x + y + 8 \div y$
(ix) $2 \times a + 3 \div b + 4$

Solution

i- two terms
ii- two terms
iii- two terms
iv- two terms
v- three terms
vi- two terms
vii- two terms
viii- three terms
ix- three terms

5. State wheather ~~two~~ true or false:

(i) xy and $-yx$ are like terms.
(ii) x^2y and $-y^2x$ are like terms.
(iii) a and $-a$ are like terms.
(iv) $-bx$ and $2ab$ are unlike terms.
(v) 5 and $5x$ are like terms.

(vi) 3xy and 4xyz are unlike terms

(vii)

solution

i- true
ii- false
iii- true
iv- false
v- false
vi- true

6. for each expression given below, state whether it is a monomial or a binomial or a trinomial.

(i) xy
(ii) $xy+x$
(iii) $2x \div y$
(iv) $-a$
(v) ax^2-x+5
(vi) $-3bc+d$
(vii) $1+x+y$
(viii) $1+x \div y$
(ix) $x+xy-y^2$

Solution

i- Monomial
ii- Binomial
iii- Monomial
iv- Monomial
v- Trinomial
vi- Binomial
vii- Trinomial
viii- Binomial
ix- Trinomial

7. Write down the coefficients of x in the following monomials.

(i) x
(ii) -x
(iii) -3x
(iv) -5ax
(v) 3/2xy
(vi) ax/y

Solution

i- 1
ii- -1
iii- -3
iv- -5a
v- 3/2y
vi- a/y

8. Write the coefficient of:

(i) x in $-3xy^2$
(ii) x in -ax
(iii) y in -y
(iv) y in 2/a y
(v) xy in $-2xyz$
(vi) ax in $-axy^2$
(vii) x^2y in $-3ax^2y$
(viii) xy^2 in $5axy^2$

Solution:

i- $-3x2$
ii- $-a$
iii- -1
iv- $2/a$
v- $-2z$
vi- $-y2$
vii- $-3a$
viii- $5a$

9. State the numeral coefficient of the following monomials.

(i) $5xy$
(ii) abc
(iii) $5pqr$
(iv) $-2x/y$
(v) $2/3\ xy^2$
(vi) $\frac{-15xy}{2z}$
(vii) $-7x \div y$
(viii) $-3x \div (2y)$

solution

i- 5
ii- 1
iii- 5
iv- -2
v- $\frac{2}{3}$
vi- $-\frac{15}{2}$
vii- $7 \div 1 = -7$
viii- $3 \div 2 = -\frac{3}{2}$

10. Write the degree of each of the following polynomials.

(i) $x + x^2$
(ii) $5x^2 - 7x + 2$
(iii) $x^3 - x^8 + x^{10}$
(iv) $1 - 100x^{20}$
(v) $4 + 4x - 4x^3$
(vi) $8x^2y - 3y^2 + x^2y^5$
(vii) $8z^3 - 8y^2z^3 + 7yz^6$
(viii) $4y^2 - 3x^3 + y^2x^7$

solution:

i- 2
ii- 2
iii- 10
iv- 20
v- 3
vi- 7
vii- 6
viii- 9