1-) $6, 4y, -3x, \frac{5}{4}, \frac{4}{5}xy, az, 7p, 0, \frac{9x}{y}, \frac{3}{4x}, \frac{xz}{3y}$

Constants

$6, \frac{5}{4}, 0$

Variables

$4y, -3x, \frac{4}{5}xy$

$az, 7p, \frac{9x}{y}, \frac{3}{4x}$

$\frac{xz}{3y}$

2-i) $4x, -x, \frac{2}{3}x$

$-3y, \frac{4}{5}y, y$

ii) $\frac{2}{3}xy, -4yx, yx$

$2yz, \frac{-2}{3}yz, \frac{zy}{3}$

iii) $-ab^2, 7b^2a, 2ab^2$

$b^2a^2, -3a^2b^2$

iv) $5ax, 7xa, \frac{2ax}{3}$

$-5by, \frac{by}{7}$

3-i) 16 is a constant and y is a variable, but 16y is variable. True

ii) 5x has two terms 5 and x. False

iii) The expression ~~5+x has two terms 5~~. $2x^2+x$ is a trinomial.

iv)

iii) The expression 5 and x has two term 5 and x. True

iv) The expression $2x^2+x$ is a trinomial. False

v) ax^2+bx+c is a trinomial. True

vi) 8 x ab is a binomial. False

vii) 8+ab is a binomial. True

viii) $x^3-5xy+6x+7$ is a polynomial. True

ix) $x^3-5xy+6x+7$ is a multinomial. True

x) The coefficient of x in 5x is 5x. False

xi) The coefficient of ab in -ab is -1. True

xii) The coefficient of y in -3xy is -3. False

4-i) $2a - b - 2$

ii) $3 \times x + \frac{a}{2}$ 2

iii) $3x - \frac{x}{p}$ 2

iv) $a \div x \times b$ 2

v) $3x \div 2 + y + 4 = 3$

vi) $xy \div 2 = 1$

vii) $x + y \div a = 2$

viii) $2x + y + 8 \div y = 3$

ix) $2 \times a + 3 \div b + 4 = 3$

5-i) xy and $-yx$ are like terms. True

ii) x^2y and $-y^2x$ are like terms. False

iii) a and $-a$ are like terms. True

iv) $-ba$ and $2ab$ are unlike terms. False

v) 5 and $5x$ are like terms. False

vi) $3xy$ and $4xyz$ are unlike terms. True

6-i) xy - monomial

ii) $xy + x$ - binomial

iii) $2x \div y$ - monomial

iv) $-a$ - monomial

v) $ax^2 - x + 5$ = trinomial

vi) $-3bc + d$ = binomial

vii) $1 + x + y$ = trinomial

viii) ~~$x+y$~~ $1 + x \div y$ = binomial

ix) $x + xy - y^2$ trinomial

7-i) xy - 1

ii) $-x$ -1

iii) $-3x$ -3

iv) $-5ax$ $-5a$

v) $\frac{3}{2}xy$ $3 \div 2y$

vi) $\frac{ax}{y}$ $\frac{a}{y}$

8-i) $3xy^2 \div -3y^2$

ii) $ax \div -a$

iii) $y \div -1$

iv) $\frac{2}{a} y \div \frac{2}{a}$

v) $2xyz \div 2z$

vi) $axy^2 \div y^2$

vii) $3ax^2y \div 3a$

viii) $5axy^2 \div 5a$

9-i) $5xy \div 5$

ii) abc 1

iii) $5pqr$ 5

iv) $\frac{-2x}{y}$ -2

v) $\frac{2}{3} xy^2$ $\frac{2}{3}$

vi) $\frac{-15xy}{2z}$ $\frac{-15}{3}$

vii) $-7x \div y \div -7$

viii) $-3x \div (2y) : \frac{-3}{2}$

10) i) $x + x^2 = 2$

ii) $5x^2 - 7x + 2 = 2$

iii) $x^3 - x^8 + x^{10} = 10$

iv) $1 - 100x20 = 20$

v) $4 + 4x = 4x3$ 3

vi) $8x^7y - 3y^2 + x^2y^5$ 7

vii) $8z^3 - 8y^2z^3 + 7yz^5$ 6

viii) $4y^2 - 3x^3 + y^2x^7$ 9