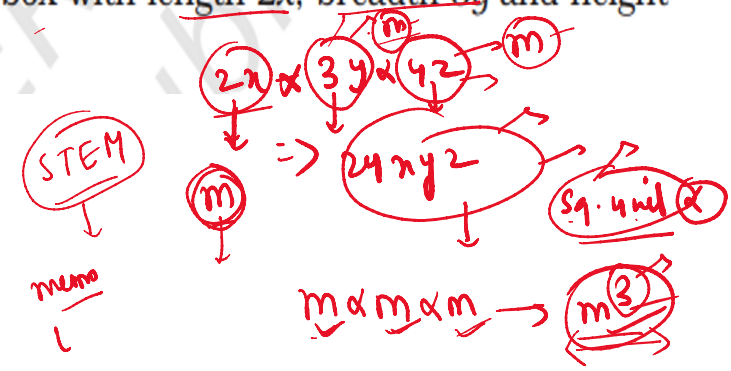
Demo

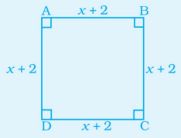
28 March 2023 15:29

Example 9 : The parallel sides of a trapezium are 40 cm and 20 cm. If its non-parallel sides are both equal, each being 26 cm, find the area of the trapezium.

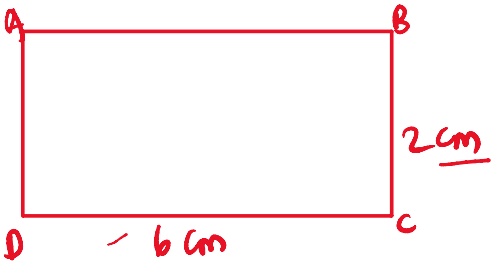
47. Volume of a rectangular box with length $2x$, breadth $3y$ and height $4z$ is _____.



Find each side of a figure given below, if its area is 64 cm².



Horse stable is in the form of a cuboid, whose external dimensions are 70 m × 35 m × 40 m, surrounded by a cylinder halved vertically through diameter 35 m and it is open from one rectangular face 70 m × 40 m. Find the cost of painting the exterior of the stable at the rate of Rs 2/m².



Perimeter 2 × (2cm + 6cm) cm

=> 2 × (2cm + 6cm)

16cm

12, plus

Error on

Soln

① dimension

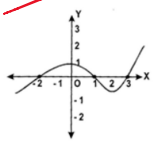
② Measurem

16. A gas filled balloon moves up. Is the upward force acting on it larger or smaller than the force of gravity?

(2) Mathem

(2) Olympiad NTSE

Choose the zeros of the polynomial whose graph is given.



A)
○ 1.-1.2

B)
○ -2, 1, 3

C)
○ -2, 0, 3

D)
○ -2, 2, 3

polynomial

Same unit of the quantities

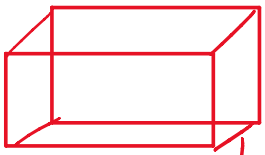
(1) Perimeter or boundary's length
Or, circumference

(2) Area of any shape

Sq. unit of quantities

3D → (3) volume of shape

cubic unit of quantities



L.S (4) =>

(a)

~~(1) Sq.~~ unit

(2) Cubic unit

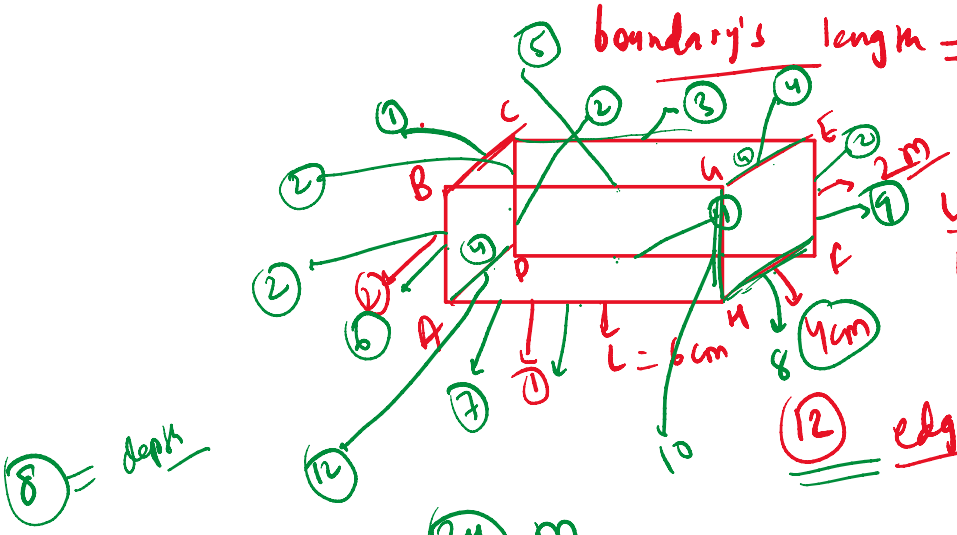
(3) same unit -
None of these

T.S (4) of

volume — cubic

perime → Same unit

boundary's length = same unit



8 = depth

b = 16 m

⇒ 24 m

12 edge

then only boundary's length

(8 + 16 + 24) m

⇒ 48 cm

volume of cuboid

cubic unit

6 cm × 4 cm × 2 cm

48 cm³

30. Observe the vessels A, B, C and D shown in Fig.11.10 carefully.

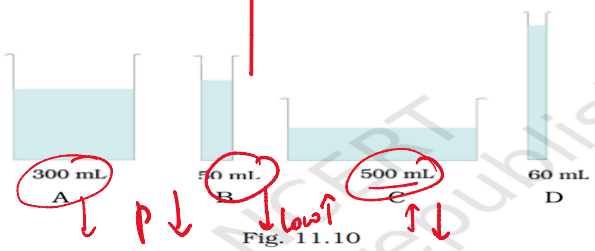


Fig. 11.10

Volume of water taken in each vessel is as shown. Arrange them in the order of decreasing pressure at the base of each vessel. Explain.

SI unit

P =

P ∝ L

pressure number

C, A,

pressure number C, A, decreasing

How more → D, B, A, C

$$P = \frac{F}{A}$$

general unit

physical unit

$\frac{F}{A}$ → Force → m a → $\frac{v}{t}$ ($v_2 - v_1$), disp, time

Area (LLT)

(4) → year

$P = \frac{F}{A}$ → $\frac{N}{m^2}$ → Nm^{-2}

12th (2013) → 10 years

NCERT

A.E → Algebraic Expression

IIT - 1960s

IIT

ML worked machine

Pluto 7 → Am...

unac → Rysim

AI → chatgpt

(Edu-Vista) YT

Bangular → Best place

IIT

once attend on

Algebraic Equation,

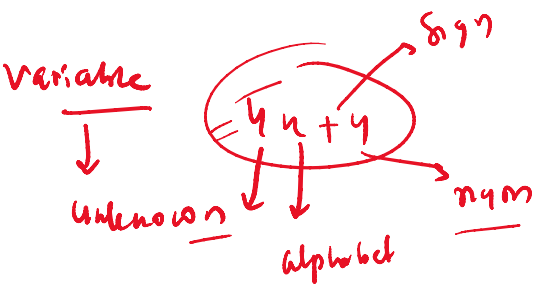
polynomial :→

① x ② y

③ $(x+y)$ ④ $\frac{1}{x^2} + 2 + x^2$

A.E → A mathematical Expression

Generic



A.E → A mathematical Expression that contain variables, constant with mathematical operation

Ex → $x^2 + 3x + 2$

Polynomial :→ An A.E that contain variables constant with some mathematical operation such that their degree or exponent exposes of variable should not be negative, Rational number / fraction

$\frac{1}{x^{-2}} + 2x^{1} + 3$ → $3x^2 + 2x + 2$

① whole number

② Rational num

③ Fractional

④ Negative

$\frac{1}{x^{-2}} + 2x + 3$

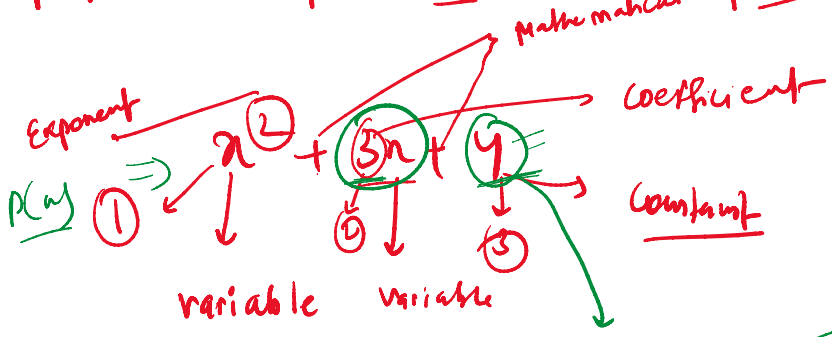
$\frac{1}{x^2} + 2x + 3$

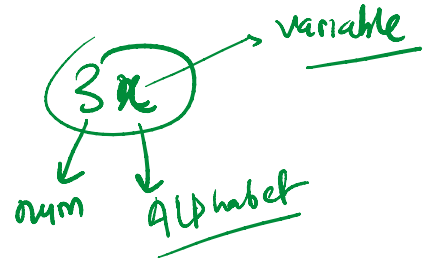
$x^{-2} + 2x + 3$

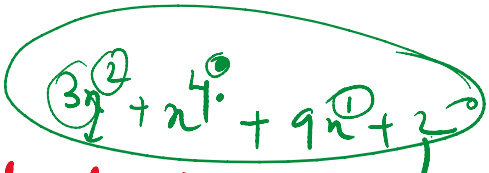
(a) fractional

(a) negative

parts of polynomial







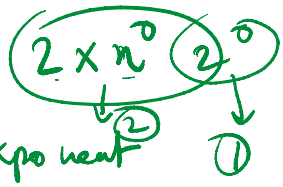
(1) variable → algebraic & has alphabet and unknown part of term

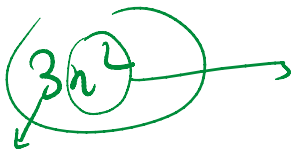
(2) Constant → term that doesn't vary

(3) M/D → +, −, %, ÷, ×

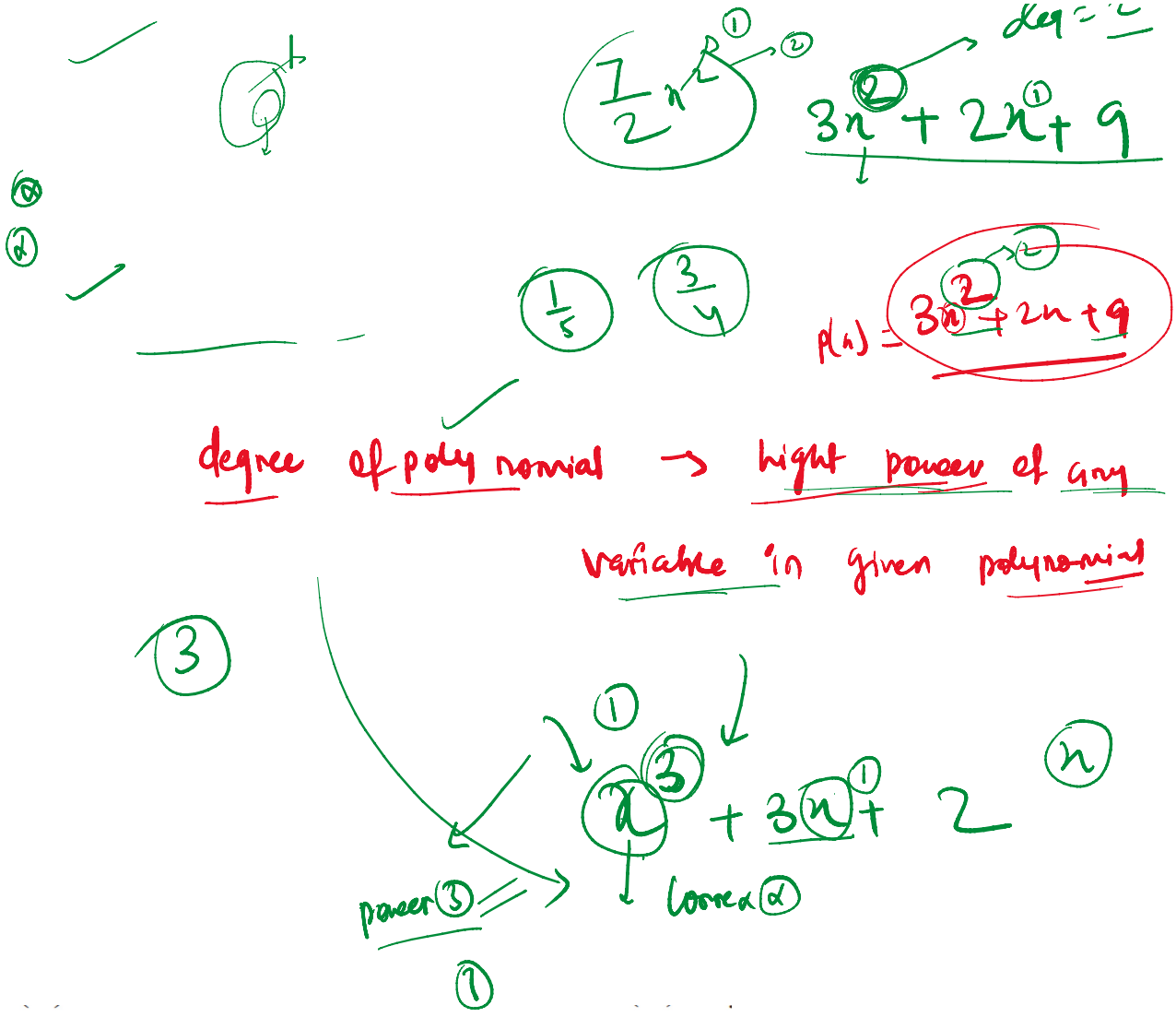
(4) Exponent → variable's power is called Exponent

(5) coefficient → numeric part of of a term or variable





- any number of variable
- many terms
- 2 terms
- Any number terms



3. For the polynomial

$\frac{x^3+2x+1}{5} - \frac{7}{2}x^2 - x^6$, write

(i) the degree of the polynomial

(ii) the coefficient of x^3

(iii) the coefficient of x^6

(iv) the constant term

2. Determine the degree of each of the following polynomials :

(i) $2x - 1$

(ii) -10

(iii) $x^3 - 9x + 3x^5$

(iv) $y^3(1 - y^4)$

(iii) $x^3 - 9x + 3x^5$

(iv) $y^3 (1 - y^4)$

keep path

degree

power of variable

(ii) -10

(i) observation

$-10 \times x^0$

-10×1

degree $= 0$

zero's polynomial

• zero's of polynomial

$p(x) = 3x^2 + 6x$

8. If $p(x) = x^2 - 4x + 3$, evaluate $p(2) - p(1)$ (2)

$x \rightarrow$ for which $p(x) = 0$

= The value of x for which $p(x) = 0$ (polynomial)

then if $p(k) = 0$,

$k \rightarrow$ zero's of polynomial

$p(x) = x^2 - 4x + 3$

x

$x^2 - 4x + 3 = 0$

For value of x, for which $p(x)$ polynomial be $= 0$

Theory

English

$a\,(1)x^2 - 4x + (3) = 0$

middle term split

$1 \times 3 = 3x^2$

$-4x$

$x^2 \times 3 \to 3x^2$

$(1)\,x^2 - 4x + (3)$

$3x^2$

middle

what we

Sol:-

$x^2 - 4x + 3$

$x^2 - 3x - x + 3$

$(-3x) \times (-x)$

$x^2 - 3x - x + 3$

$(-3x) \times (-x)$

$+3x^2$

$x^2 - 3x - x + 3$ $+3x^2$

$\Rightarrow 1x^2 - 4x + 3 = 0$ (1×3)

-3 split

$-3x + 1x$

$-2x$

$2 \times 2 \times x$

$-3x + 1$

$1x^2 - 4x + 3 = 0$

$3 \times 1 = 3$

$(-3)(-1) = 3$

$1x^2 - 3x - x + 3 = 0$

① ② ③ ④

$x^2 - 3x - x + 3 = 0$

$x^2 - 3x$ $- x + 3$

$x(x-3)$ $-1(x-3)$

$x^2 - 2x$

$x(x-2)$

$x(x-2)$

$x(x-3) - 1(x-3)$

$x(x-3) - 1(x-3)$

$(x-3)(x-1) = 0$

$0 \times (x-1) = 0$

$(x-3) \times 0 = 0$

$(x-3)(x-1) = 0$

$(x-3) = 0$ | $(x-1) = 0$

$x = 3,$ $x = 1$

$x = 3, 1 \rightarrow$

$= 0$ $x = 9$

$x \rightarrow$

$x -$

$(x-2)^2 - (x+2)^2 = 0$

Some value

$x -$

$(a^2 - b^2)$

$(a+b)(a-b)$

$(x-2+x+2)(x-2)(x+2)$

$x(x^2 - 2x + 2x - 4)$

$x^3 - 4 = 0$

$x(x^2 - 4) = 0$ $(x-2)(x+2)$

$x = 0, \quad x = 2, -2$

$x = 0, (x-2)(x+2) = 0$

root

$x \to$ given $\to$ 0

$a^2 - b^2 = (a+b)(a-b)$

$x^2 + 4 - 2x - (x^2 + 4 + 2x)$

$x^2 + 4 - 2x - x^2 - 4 - 2x$

$-2x - 2x = 0$

$-4x = 0$

$x = \frac{0}{-4} \to 0$

$x = \frac{0}{-4}$

11. Find the zeroes of the polynomial in each of the following :

(i) $p(x) = x - 4$ (ii) $g(x) = 3 - 6x$

(iii) $q(x) = 2x - 7$ (iv) $h(y) = 2y$

12. Find the zeroes of the polynomial :

$p(x) = (x - 2)^2 - (x + 2)^2$

$(a-b)^2$ $(a+b)^2$

$(x-2)^2 - (x+2)^2$

step ①

$(x^2 + 4 - 2 \times 2x) - (x^2 + 4 + 2 \times 2 \times x)$ $\quad a^2+b^2+2ab$

$x^2 + 4 - 4x - x^2 - 4 - 4x$

$-4x - 4x = 0$

$-8x = 0$

$-8 \times x = 0$

$x = 0$

Called zero's of polynomial