Covered Topics

A. Arithmetic

1. Integers
2. Fractions
3. Decimals
4. Real numbers
5. Ration and proportion
6. Percent
7. Power and roots of numbers

B. Algebra

1. Simplifying
2. Equations
3. Solving linear equations with one unknown
4. Solving linear equations with two unknown

C. Geometry

1. Line   2. Intersecting lines and angles

3. Triangles   4. Circles

Area of Triangle, Area of Square, Area of Cubic

Parameter of a triangle, Square and.....

D. Word problems

1. Rate   2. Interest

3. Discount   4. Profit

5. Mixture   6. Sets

C. Geometry

1. Line   2. Intersecting lines and angles
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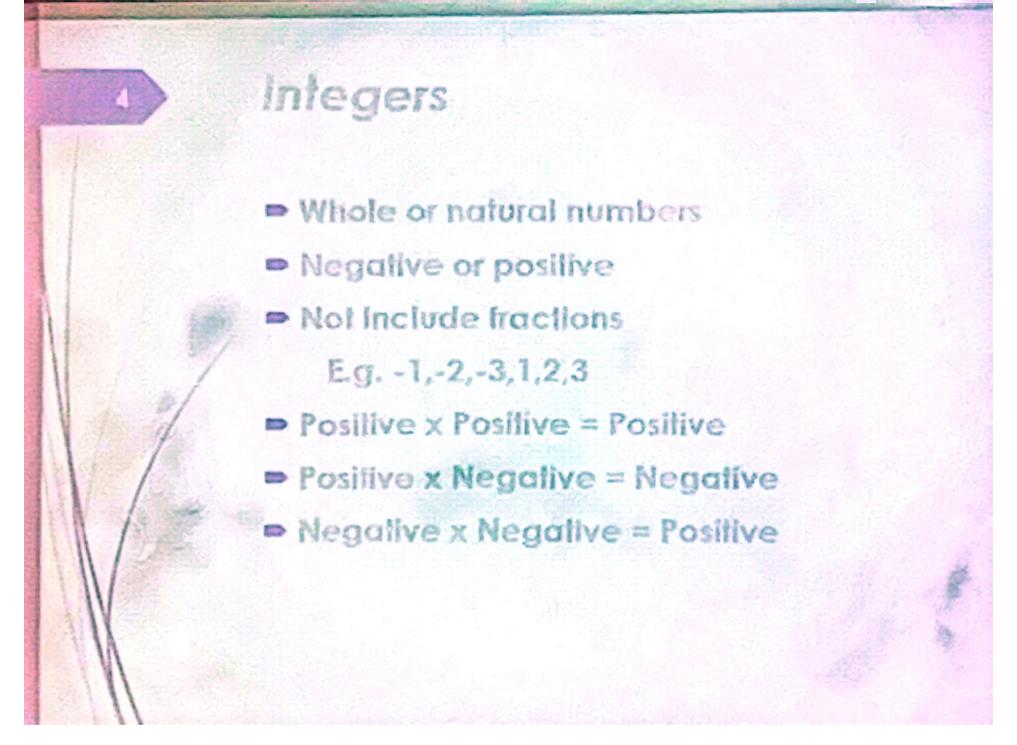
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Integers

- Whole or natural numbers
- Negative or positive
- Not Include fractions
  - E.g. -1,-2,-3,1,2,3
- Positive x Positive = Positive
- Positive x Negative = Negative
- Negative x Negative = Positive

Digits

- 0 --------- 9
  - E.g. 246--- 3 digits
    - 6 — the units (or ones) digit
    - 4 — the tens digits
    - 2 — the hundreds digits
  - E.g. 27.63
    - Not integer
    - 2 — the tens digit
    - 7 — the ones digit
    - 6 — the tenths digit
    - 3 — the hundredths digit

- **Remainders**
- **Odd or Even**
- **Consecutive integers**
  - Integers listed in order of increasing value without any integers missing between Ex, 2,3,4 or -1,0,+1
- **Prime numbers**
  - A *positive* integer that is divisible by only two numbers: itself and 1
  - 2,3,5,7,11,13,17
  - 0 or 1 is not a prime number

Factors

- $15 = (3)(5)$
- $21 = (7)(3)$

Factorial

$2! = 2 * 1 = 2$

$3! = 3 * 2 * 1 = 6$

Absolute value

- The distance between that numbers and 0
- $|6| = 6$
- $|-5| = 5$

Real Numbers

- All real numbers except zero are either positive or negative.

- -5   -4   -3   -2   -1   0   +1   +2   +3   +4   +5

$$-3/2 \qquad 0.2 \quad \sqrt{2}$$

$x+y = y+x$

$xy = yx$

Descriptive Statistics

- Mean or Average
- Median
- Mode

$$a^2 - b^2 = (a - b)(a + b)$$
$$(a^2)(a^3) = a^{2+3} = a^5$$
$$x^0 = 1$$