

NUR AFRICA ACADEMY



MATHS Revision Note For Grade -6

Prepared by : Mr. Kedir .S

SEPTEMBER, 2020



UNIT 7

EQUATIONS AND INEQUALITIES



7.1 Equation

- ▶ Any mathematical sentence connected by an equal sign (=) is called an equation.
- ▶ All equations have 2 sides. These are:
 - ▶ left hand side and
 - ▶ right hand side)

Examples

- a) $2x - 3a - 41 = 202$
- b) $0.5c - 12 = 0$
- c) $10b + 50 = 305$

Are equations

gettyimages® | 25 YEARS
VasjaKoman

7.1.1 Solving equations



- ▶ To solve equations we must transpose the given terms.

Note: Transposition means changing the position.

- ▶ In transposition when the terms change the side, their signs also changes.
- ▶ if the terms side is changed then the term takes its opposite sign.
- ▶ if it is “-” when we change it because +
- ▶ if it is “+” when we change it because -

Equivalent Equations

- ▶ Two equations which have the same solution set are called equivalent equations.

Example : Check $3x - 2 = 16$ and $5x + 4 = 34$ are equivalent or not.

Solution:

$3x - 2 = 16$ Transpose - 2 to the right becomes + 2. so $3x = 16 + 2$

then $3x = 18$

To find the value of x divide both sides by 3. It becomes $x = 6$.





► Find solution to the second equation , $5x + 4 = 34$, Transpose +4 to the right bec
so it becomes $5x = 34 - 4$, $5x = 30$,

to get the value of x, divide both sides by 5 gives $x = 6$.

The solution of $3x - 2 = 16$ and $5x + 4 = 34$ becomes $x = 6$.

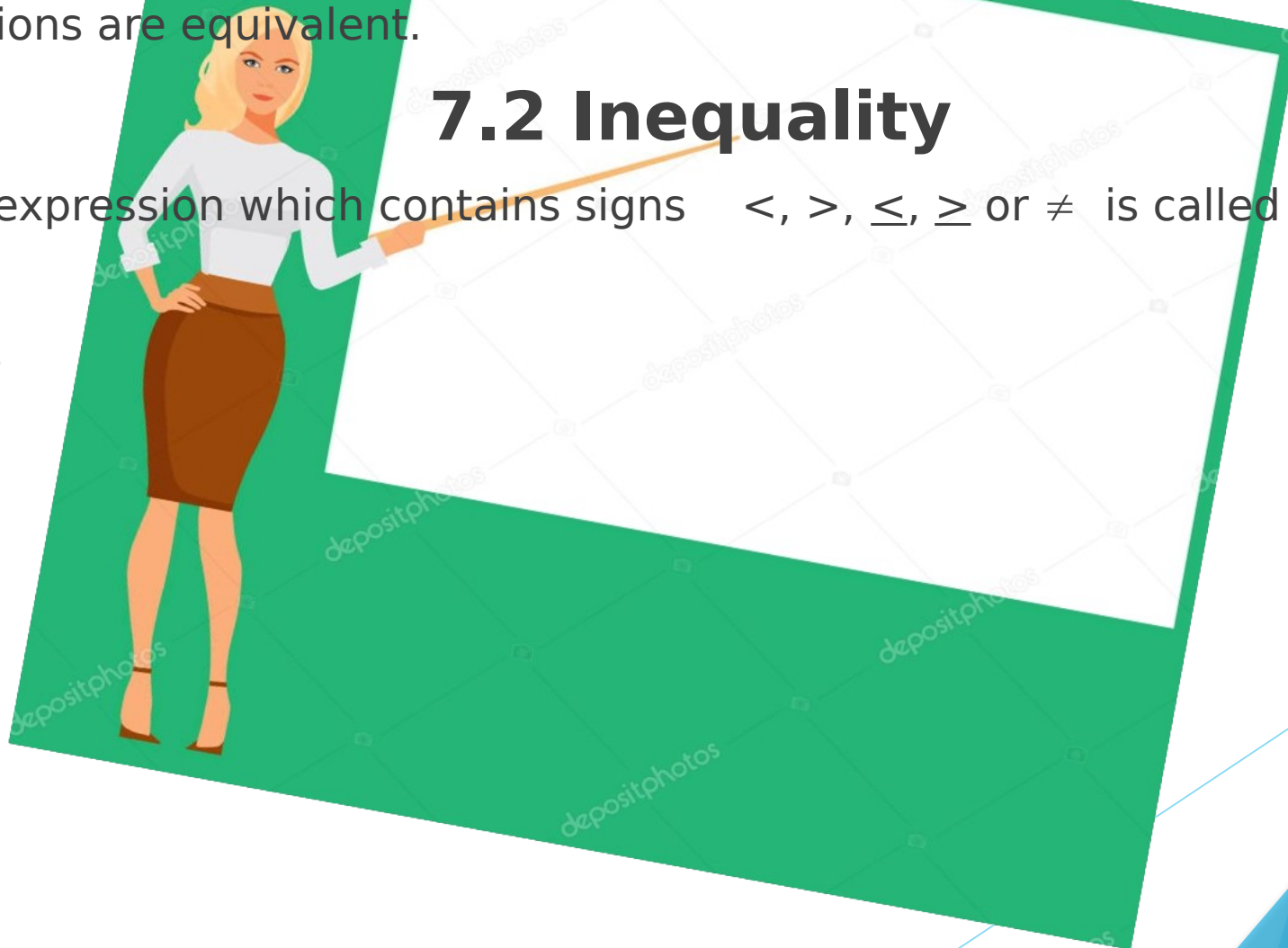
So these two equations are equivalent.

7.2 Inequality

► A Mathematical expression which contains signs $<$, $>$, $\leq$, $\geq$ or $\neq$ is called inequality.

Examples:

- a) $11x + 7 < 34$
- b) $3b + 11 > 67$
- c) $5a < 11$

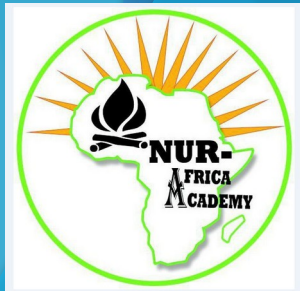


Equivalent inequalities

- ▶ Two inequalities with the same solution set are called equivalent inequalities.
- ▶ To solve inequalities all the processes are the same as solving equation except for the following.
- ▶ Multiplying both sides of an inequality by negative number will change the inequality sign.
- ▶ 2) Dividing both sides by negative number also changes the inequality sign.

▶ **Note:**

Don't divide by Zero .

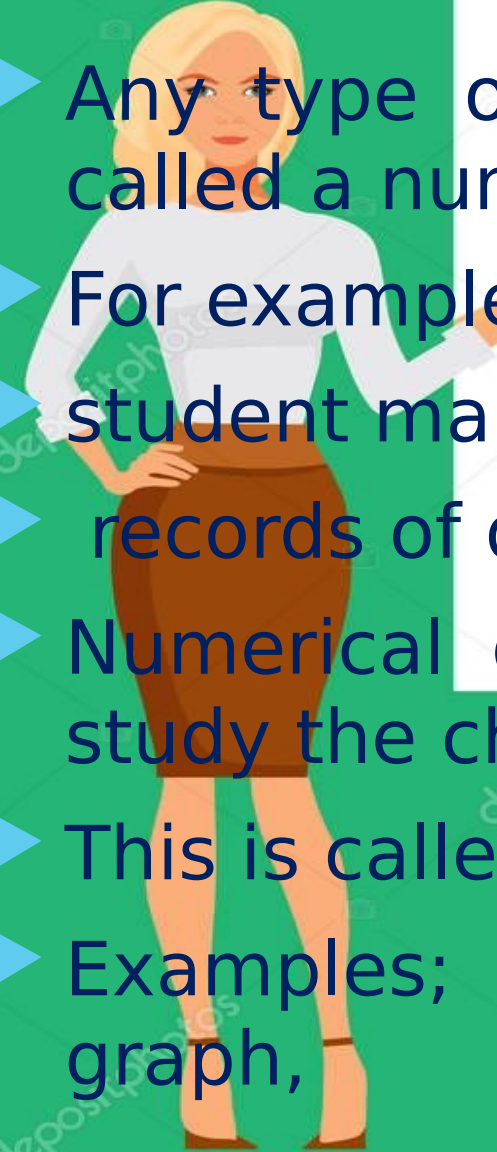




UNIT 8

STATISTICS

- ▶ Any type of information given with the help of numbers is called a numerical data.
- ▶ For example,
 - ▶ student mark lists,
 - ▶ records of daily temperature
- ▶ Numerical data can be represented by pictures in order to study the characteristics and details of the data.
- ▶ This is called graph of the data.
- ▶ Examples; Bar graph (histograms), line graph, and circle graph,



8.1 Bar graph

- ▶ A bar graph is a graph drawn to show the relationship between the values and the frequencies.
- ▶ To construct a bar graph, first construct a frequency distribution table or grouped frequency distribution and plot the frequencies on the y – axis and the data values or intervals on the x – axis.

8.2 Line Graph

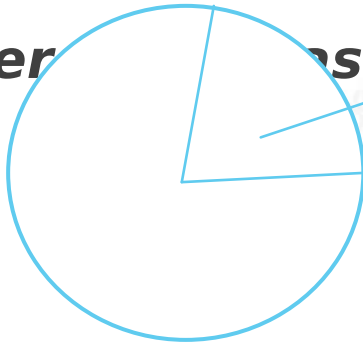
- ▶ A line graph is drawn based on pairs of measurements of two quantities.
- ▶ To plot a line graph, we take two lines at right angles to each other.
- ▶ These two lines are called the axes of reference.
- ▶ The intersection of these two axes is called the origin.
- ▶ Each pair of coordination is represented by a dot, and consecutive dots are connected by a straight line or a smooth curve. □ Line graph is mostly to show reality (truth).
- ▶ Example: heartbeat, blood pressure...



8.3 Circle graph

- ▶ **Circle graph (pie chart) is a very common and accurate way of representing data.**
- ▶ **The portion of a circular region enclosed between two radii and part of the circumference (an arc) is called a sector of circle.**
- ▶ **The size of the sector is determined by the size of the angle formed by the two radii.**
- ▶ **Note:**

Larger angle makes wider the sector.



Sector



Download from
Dreamstime.com

This watermarked comp image is for previewing purposes only.

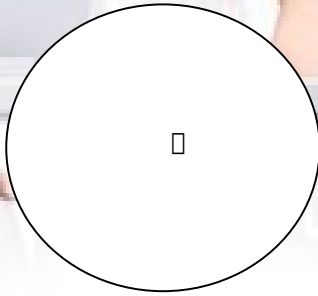


UNIT 9

CIRCLE



- ▶ **Definition:**
- ▶ **A Circle** is the set of points which are equidistant from a fixed point.
- ▶ This fixed point is called Center.



- ▶ **Radius "r"**
- ▶ It is the distance from the center to any point on the circle.
- ▶ It is a segment that connects a center with any point on the circle.
- ▶ **Chord**
- ▶ It is segment which connects any two points on the circle.

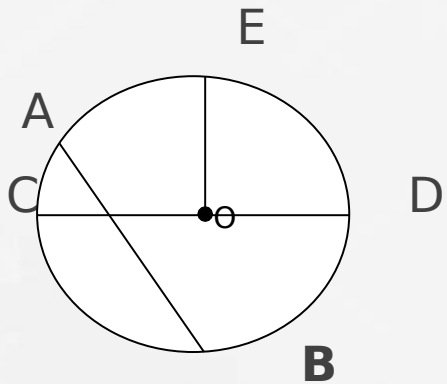
#61651620

► Diameter "d"

- It is the segment that connects any two points on the circle and passes through the center.
- Or it is a chord which passes through the center of the center.

► **Note:**

Diameter is the largest chord.



- OC, OD, OE - radius of Circle

CD - diameter of circle O

▮ - AB - chord

► **Note:**

Radius is half of a diameter.

$$\Rightarrow r =$$

$$\Rightarrow 2r = d$$



9.1 Area of a circle



- ▶ The area of circles is given by:
- ▶ Area of a circle = $\pi \times (\text{radius})^2$;
- ▶ we have to multiply by the square of its radius.

$$A = r^2$$

Where $\pi = 3.14$, and $r = \text{radius}$.

Example 1) If the radius of a circle is 6 cm, what is the area of the circle?

Solution:-

$$A = r^2$$

$$= 3.14 (6)^2 = 3.14 (36) \text{ cm}^2 = \underline{113.04 \text{ cm}^2}$$

2) Let the diameter of a circle be 10cm, what is the area of the circle?

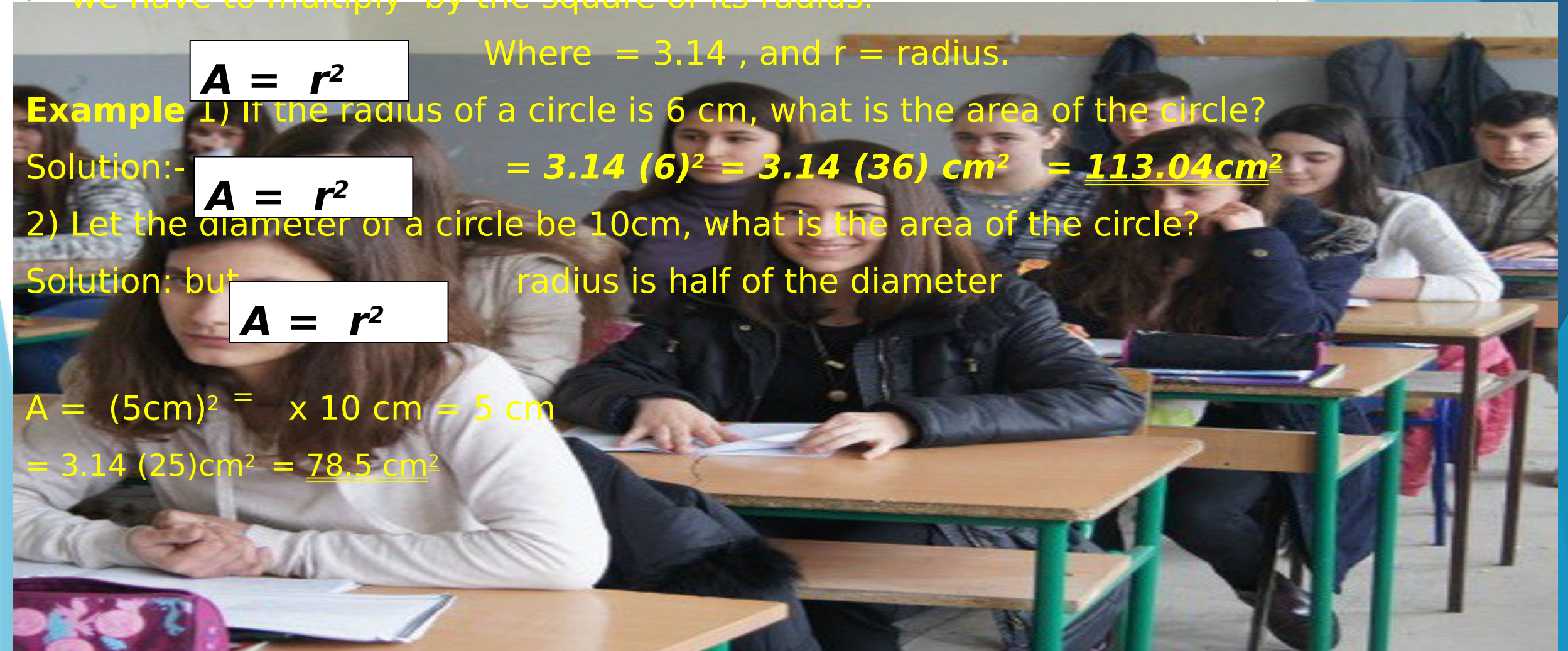
Solution: but

$$A = r^2$$

radius is half of the diameter

$$A = (5\text{cm})^2 = \pi \times 10 \text{ cm} = 5 \text{ cm}$$

$$= 3.14 (25) \text{ cm}^2 = \underline{78.5 \text{ cm}^2}$$



9.2 Circumference of a Circle

- ▶ The circumference of a circle is given by:

$$C = 2 r$$

Where $r = \text{radius}$, simply multiply by radius and multiply the product by 2.

or

$$C =$$



