

ARGOMENTO: CONICHE

Key words: parabola, circonferenza, ellisse, iperbole come sezioni coniche. Le caratteristiche delle coniche. Saper riconoscere le equazioni.

Fasi della lezione:

PRIMA ORA

- **Activity 1: Listening and Identify** (20 minuti)
Guardare parte del video 1
test a completamento All.1 : dare il nome alla conica associandola ad ogni disegno(sezione conica e grafico cartesiano)
- **Activity 2: Identify, Ordering, Remembering** (40 minuti)
Leggere il testo e sottolineare le parole chiave.
Ricostruire il testo diviso in pezzi.All.2
Dare le definizioni: La docente legge la definizione, Il capogruppo che arriva per primo alla cattedra può dare la risposta. All.3

SECONDA ORA

- **Activity 3: Review with Crossword** (20 minuti)
Viene dato un cruciverba da completare. All.4
- **Activity 4: Listening and Identify** (20 minuti)
Guardare video 2:
- **Activity 5: Hypothesising, Creative and Evaluation.** (20 minuti)
Rispondere alle domande All.5: La docente legge le domande, Il primo dei ragazzi che si prenota può dare la risposta.

Sussidi/ supporti multimediali/ /materiale utilizzati:

Video

Video 1: <https://www.youtube.com/watch?v=5kM39HZDQ5s>

Video 2: <https://www.youtube.com/watch?v=-KNfS1wBaEs>

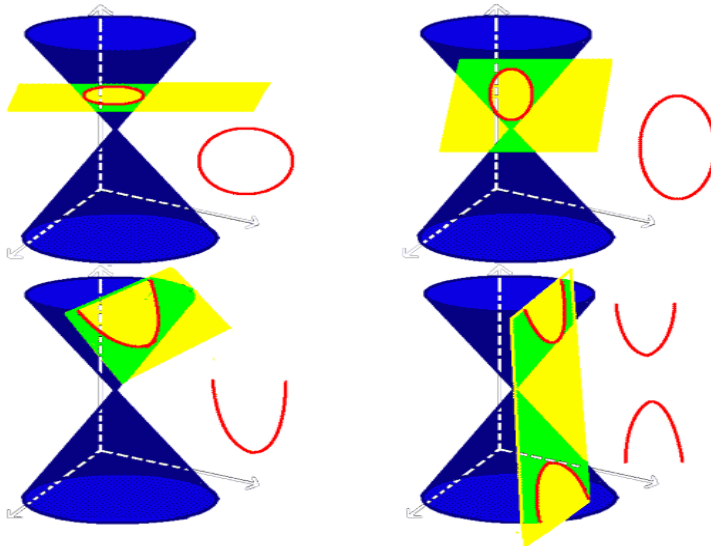
Materiali utilizzati:

LIM, Carta e penna.

Eventuale attività/produzione richiesta agli studenti allegati 1,2,3,4,5

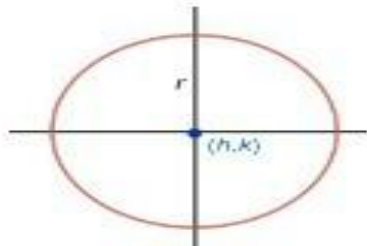
All1.

Write the name to each conic sections

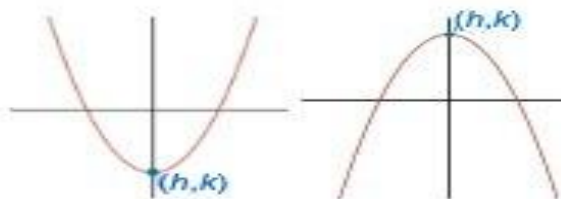


Write the name to each graphic:

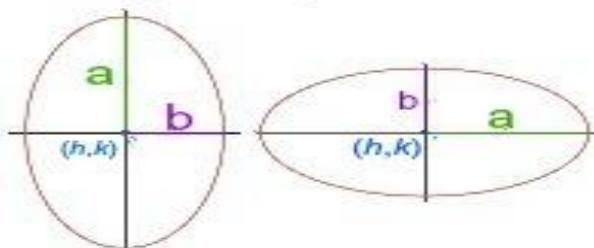
$$(x - h)^2 + (y - k)^2 = r^2$$



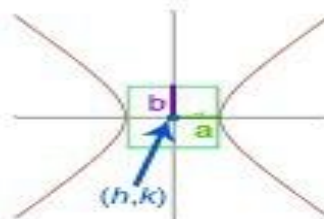
$$y = a(x - h)^2 + k$$



$$\frac{(x - h)^2}{a^2} + \frac{(y - k)^2}{b^2} = 1$$



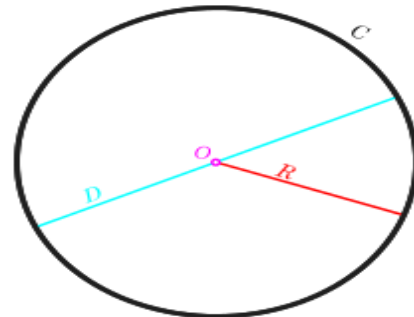
$$\frac{(x - h)^2}{a^2} - \frac{(y - k)^2}{b^2} = 1$$



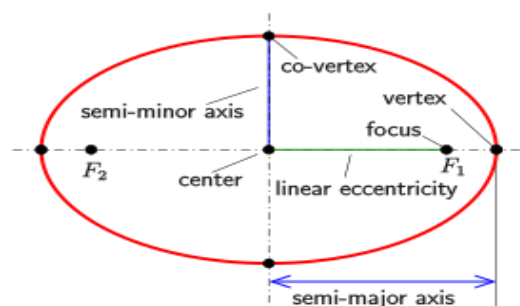
All.2

A conic is the curve obtained as the intersection of a plane, called the cutting plane, with the surface of a double cone.

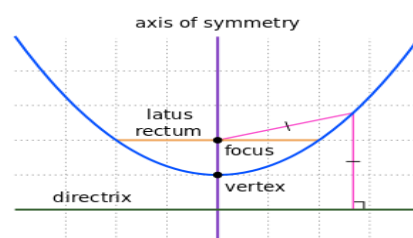
The circle is obtained when the cutting plane is parallel to the plane of the generating circle of the cone and it is perpendicular to the symmetry axis of the cone. Circle is the set of all points in a plane that are at a given distance from a given point, the centre.



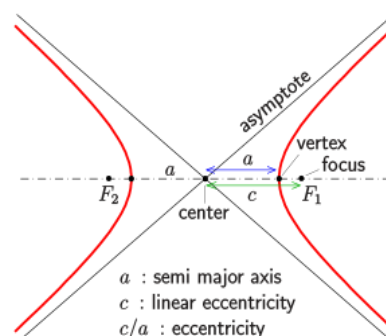
If the cutting plane forms an angle with one generating line of the cone, then the conic is called an ellipse. Ellipse is a curve in a plane surrounding two focal points such that the sum of the distances to the two focal points is constant for every point on the curve.



If the cutting plane is parallel to exactly one generating line of the cone, then the conic is called a parabola. The parabola is the set of points in that plane that are equidistant from both the directrix and the focus.



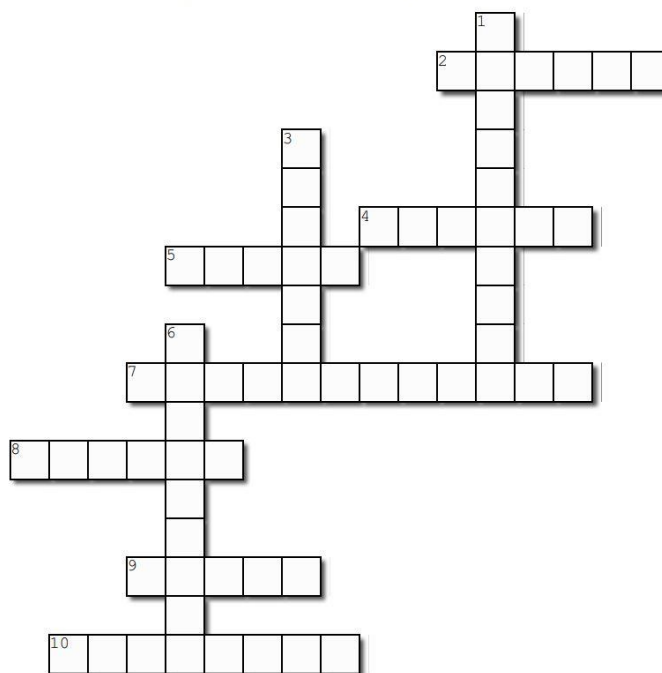
If the cutting plane is parallel to the symmetry axis of double cone, then the conic is called a hyperbola. It is a curve in a plane surrounding two focal points such that the difference of the distances to the two focal points is constant for every point on the curve.



conic	the curve obtained as the intersection of a plane
Cutting plane	Plane that intersect the double cone
Circle	If the cutting plane is parallel to the plane of the generating circle of the cone we obtain the ...
Parabola	If the cutting plane is parallel to exactly one generating line of the cone we obtain the
Hyperbola	If the cutting plane is parallel to the symmetry axis of double cone we obtain the
Ellipse	If the cutting plane forms an angle with one generating line of the cone
Circle	the set of all points in a plane that are at a given distance from a given point, the centre
Ellipse	is a curve in a plane surrounding two focal points such that the sum of the distances to the two focal points is constant for every point on the curve
Parabola	is the set of points in that plane that are equidistant from both the directrix and the focus
Hyperbola	is a curve in a plane surrounding two focal points such that the difference of the distances to the two focal points is constant for every point on the curve
Focus	a fixed <i>point</i> on the interior of a parabola used in the formal <i>definition</i> of the curve
Center	a fixed point on the interior of a circle used in the formal definition of the curve
SYMMETRY AXIS	A line of symmetry for a graph
Vertex	Point aligned to the focus of parabola
Directrix	line perpendicular to the axis of symmetry

Conic

Complete the crossword puzzle below



Created using the Crossword Maker on TheTeachersCorner.net

Horizontal

- 2. the set of all points in a plane that are at a given distance from a given point, the centre
- 4. a fixed point on the interior of a circle used in the formal definition of the curve
- 5. the curve obtained as the intersection of a plane
- 7. A line of symmetry for a graph
- 8. Point aligned to the focus of parabola
- 9. a fixed point on the interior of a parabola used in the formal definition of the curve
- 10. the set of points in that plane that are equidistant from both the directrix and the focus

Vertical

- 1. line perpendicular to the axis of symmetry
- 3. curve in a plane surrounding two focal points such that the sum of the distances to the two focal points is constant for ever
- 6. curve in a plane surrounding two focal points such that the difference of the distances to the two focal points is constant f