وزارة التربية والتعليم و التعليم الفنى
الإدارة المركزية للتعليم العام
إدارة تنمية مادة الرياضيات

برعاية معالي وزير التربية والتعليم و التعليم العام
السيد الأستاذ/ محمد عبد اللطيف

وتوجيهات رئيس الإدارة المركزية للتعليم العام
المشرف على مستشارى المواد الدراسية

د/ هالة عبد السلام خفاجى

إشراف علمي
مستشار الرياضيات

أ/ منال عزقول

أداءات وتقييمات لمنهج الرياضيات

للصف الأول الثانوي لغات
الفصل الدراسى الثانى
للعام الدراسي 2025 / 2026

الأسبوع الأول

إعداد

أ/ إيهاب فتحى أ/ محمود السيد أ/ محمود سلام

ترجمة

أ/ محمد على

مراجعة الترجمة

أ/ عثمان مصطفى عثمان

مراجعة عامة

أ/ شريف البرهامى

First: Algebra

(1) In the matrix A = $\begin{pmatrix} 2 & 1 \\ 7 & 8 \\ -1 & 3 \end{pmatrix}$ what is the value of a_{12}, a_{22}

(2) The librarian monitored the demand of students to borrow books in various academic subjects over a period of three months, which was as follows:

- The first month: Mathematics 80 books, Chemistry 60 books, and Physics 70 books
- The second month: Mathematics 90 books, Chemistry 50 books, and Physics 80 books
- The third month: Mathematics: 100 books, Chemistry: 70 books, and Physics: 90 books

Organize the data in a matrix, arranging the months sequentially

(3) Write the order of the following matrices and write their type

a) $\begin{pmatrix} 0 & 0 \\ 0 & 2 \end{pmatrix}$ b) $\begin{pmatrix} 3 & 4 \\ 2 & -1 \end{pmatrix}$ c) $\begin{pmatrix} 2 \\ -1 \\ 3 \end{pmatrix}$

d) $\begin{pmatrix} 2 & 3 & 5 \end{pmatrix}$ e) $\begin{pmatrix} 1 & 0 & 0 \\ 0 & 1 & 0 \\ 0 & 0 & 1 \end{pmatrix}$ f) $\begin{pmatrix} 0 & 0 \\ 0 & 0 \\ 0 & 0 \end{pmatrix}$

(4) **Form the matrix (A_{ij}) of order 2×2, where $a_{ij} = j - 2i$**

Second: Trigonometry

(5) Find in the simplest form:

a) $\frac{tan\theta cot\theta}{sec\theta}$ **b)** $5cos^2\theta + 5sin^2\theta$

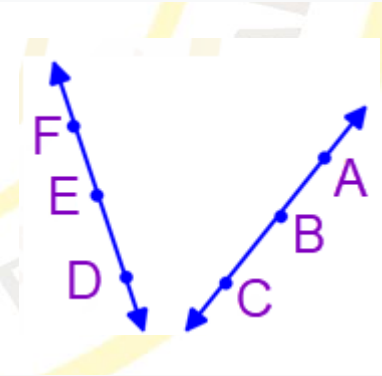
(6) Prove that

a) $tan\theta + cot\theta = sec\theta\ csc\theta$ b) $sin\theta\ cos\theta\ tan\theta = 1 - cos^2\theta$

Third: Geometry

(7) A body started its motion from the point A at a distance 5 meters to West, then changed its direction and traveled 12 meters to South and stopped at the point C. Find the distance that the body traveled during its movement, as well as the displacement.

(8) In the opposite figure:



If the $\overleftrightarrow{AC}, \overleftrightarrow{DF}$ are not parallel, state whether the two directed line segments in each of the following are in the same direction, in opposite direction, or in different direction.

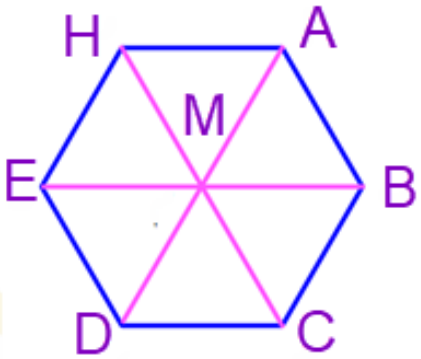
a) $\overrightarrow{FE}, \overrightarrow{DE}$ **b)** $\overrightarrow{CB}, \overrightarrow{DF}$ **c)** $\overrightarrow{CB}, \overrightarrow{BA}$

(9) ABCD is a parallelogram its diagonals intersect at M, State the directed line segments (if exist) which equivalent to

a) $\overrightarrow{AD}$ b) $\overrightarrow{DC}$ c) $\overrightarrow{BM}$

(10) In the opposite figure:
ABCDEH is a regular hexagon its centre is M, State the directed line segments (if any) which are equivalent to

a) $\overrightarrow{CB}$ b) $\overrightarrow{MC}$ c) $\overrightarrow{DE}$



First: Algebra

(1) In the matrix A= $\begin{pmatrix} 3 & 5 & 7 \\ 2 & 8 & -1 \end{pmatrix}$ what is the value of a_{11}, a_{23}?

(2) The clinic director monitored the achievements of three doctors in treating patients within a month, which were as follows:

• Dr. Ahmed: He treated 80 patients, prescribed 120 medications, and performed 12 operations.

• Dr. Fatima: She treated 95 patients, prescribed 150 medications, and performed 15 operations.

• Dr. Ali: He treated 70 patients, prescribed 100 medications, and performed 17 operations

Organize the data in a matrix, arranging the names in ascending order according to the number of operations

(3) Write the order of the following matrices and write their type

a) $\begin{pmatrix} 0 & 0 & 0 \\ 0 & 0 & 0 \end{pmatrix}$ b) $\begin{pmatrix} 1 & 0 \\ 0 & 1 \end{pmatrix}$ c) $\begin{pmatrix} 2 & 3 \\ 5 & 1 \end{pmatrix}$

d) $\begin{pmatrix} 1 & 2 & 7 \end{pmatrix}$ e) $\begin{pmatrix} 5 \\ 6 \\ -2 \end{pmatrix}$ f) $\begin{pmatrix} 1 & 0 \\ 0 & 0 \end{pmatrix}$

(4) Form the matrix (A_{ij}) of order 3×2, where $a_{ij} = i - j$

Second: Trigonometry

(**5**) Find in the simplest form:

a) $\frac{\sin\theta \csc\theta}{\tan\theta}$ **b**) $2\cos^2\theta + 2\sin^2\theta$

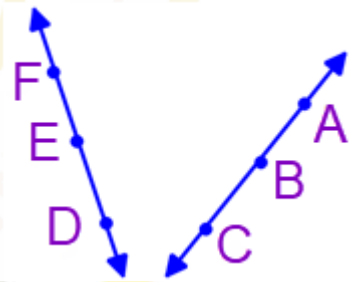
(6) Prove that

a) $\sin^2\theta \tan^2\theta + \sin^2\theta = \tan^2\theta$ b) $\frac{1-\cos^2\theta}{\sin^2\theta-1} = -\tan^2\theta$

Third: Geometry

(**7**) A body started its motion from the point A at a distance 6 meters East, then changed its direction and traveled 8 meters North and stopped at the point C. Find the distance that the body traveled during its movement, as well as the displacement.

(**8**) **In the opposite figure:**



If the $\overleftrightarrow{AC}, \overleftrightarrow{DF}$ are not parallel, state whether the two directed line segments in each of the following are in the same direction, in opposite direction, or in different direction.

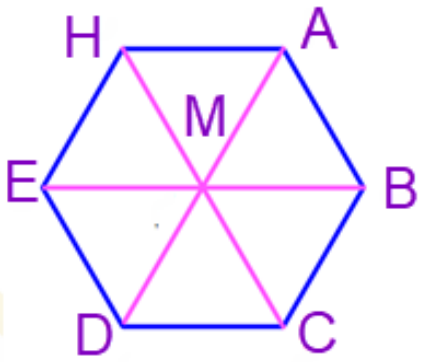
a) $\overrightarrow{AB}, \overrightarrow{BC}$ **b**) $\overrightarrow{AB}, \overrightarrow{FE}$ **c**) $\overrightarrow{AB}, \overrightarrow{CB}$

(9) ABCD is a parallelogram its diagonals intersect at M, State the directed line segments (if exist) which is equivalent to

a) $\overrightarrow{AB}$ b) $\overrightarrow{BC}$ c) $\overrightarrow{AM}$

(10) In the opposite figure:

ABCDEH is a regular hexagon its centre is M, State the directed line segments (if any) which are equivalent to



a) $\overrightarrow{AB}$ b) $\overrightarrow{MD}$

c) $\overrightarrow{DC}$