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

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

وتوجيهات رئيس الادارة المركزية للتعليم العام

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مستشار الرياضيات

أ/ منال عزقول

أداءات وتقييمات لمنهج تطبيقات الرياضيات لغات

للصف الثانى الثانوي "علمى"

الفصل الدراسى الأول

للعام الدراسي 2026 / 2027

الأسبوع الثانى

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Classroom Performance (Week Two) - Mathematics Applications

(1)Two forces of magnitude are 5 and 12 Newtons . If the measure of the angle between the two forces is α where $\alpha \in]0, \frac{\pi}{2}]$. find the interval in which the magnitude of the resultant of the two forces belongs , measured in Newtons .

(2) Two forces of magnitude are F , 11 Newtons acting at a point, and the measure of the angle between them is 120°, and the magnitude of their resultant are F Newtons . Find the value of F in Newtons .

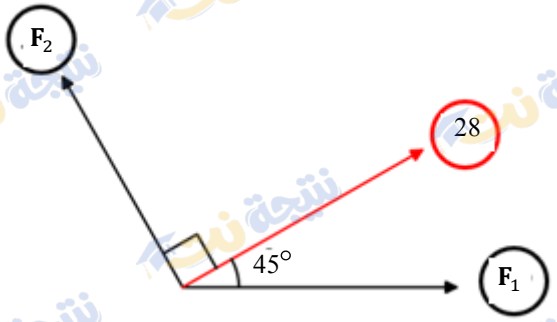
(3) Two forces $\overrightarrow{F_1}$, $\overrightarrow{F_2}$, and the magnitude of their resultant is $5\sqrt{7}$ Newtons when the measure of the angle between them is 60°, and the magnitude of their resultant is $5\sqrt{5}$ Newtons when the measure of the angle between
them is 90°. Find the magnitude of each of the two forces F_1 , F_2.

(4) Two forces act at a point of magnitudes F_1 , F_2 where $(F_2 < F_1)$, the measure of the angle between them 118°, and the magnitude of their resultants are R where $R = \sqrt{{F_2}^2 - {F_1}^2}$. Find the measure of the angle of inclination of the resultant to the first force.

(5) Two forces act at a point with magnitudes 9 , F where (F > 9), If the minimum value of their resultant = $\frac{1}{3}$ the maximum value of their resultant, find the value of F.

(6) Resolve a force of 50 Newtons into two components inclined in the direction of the force at angles of measures 60° , 75° measuring in opposite directions. to the nearest tenth .

(7) In the opposite figure:
If a force of 28 Newton
is resolved into two components F_1 , F_2 ,
find the value of F_1 , F_2.



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(8) Resolve a force of 100 Newtons into two forces of equal magnitude and the measure of the angle between them is 120°.

(9) Resolve a horizontal force of 90 Newtons in two perpendicular directions, one of which is inclined to the horizontal at an angle 60° measuring upward.

(10) A body of weight 20 Newton is placed on a plane inclined at an angle 30° to the horizontal. Find the value of its weight component in the direction perpendicular to the plane's greatest slope.

Homework (Week 2) - Math Applications

(1)Two forces of magnitude are 5 and 12 Newtons . If the measure of the angle between the two forces is α where $\alpha \in [0, \frac{\pi}{2}]$. find the interval in which the magnitude of the resultant of the two forces belongs , measured in Newtons .

(2) Two forces of magnitude are F , 6 Newtons acting at a point, and the measure of the angle between them is 120°, and the magnitude of their resultant are F Newtons . Find the value of F in Newtons .

(3) Two forces $\overrightarrow{F_1}$, $\overrightarrow{F_2}$, and the magnitude of their resultant is $3\sqrt{19}$ Newtons when the measure of the angle between them is 60°, and the magnitude of their resultant is $3\sqrt{13}$ Newtons when the measure of the angle between them is 90°. Find the magnitude of each of the two forces $\overrightarrow{F_1}$, $\overrightarrow{F_2}$.

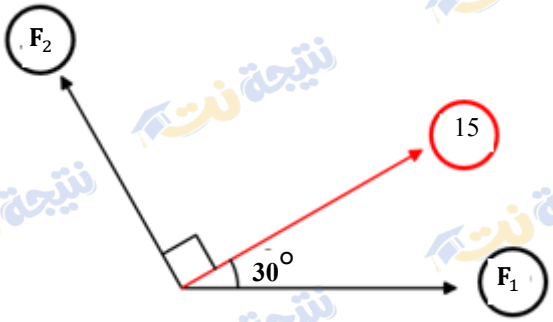
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(4) Two forces act at a point of magnitudes F_1 , F_2 where $(F_2 < F_1)$, the measure of the angle between them 127°, and the magnitude of their resultants are R where R = $\sqrt{{F_2}^2 - {F_1}^2}$. Find the measure of the angle of inclination of the resultant to the first force.

(5) Two forces act at a point with magnitudes 5 , F where (F > 5), If the minimum value of their resultant = $\frac{3}{5}$ the maximum value of their resultant, find the value of F.

(6) Resolve a force of 40 Newtons into two components inclined in the direction of the force at angles of measures 30° , 45° measuring in opposite directions. to the nearest tenth .

(7) In the opposite figure:
If a force of 15 Newton
is resolved into two components F_1 , F_2 ,
find the value of F_1 , F_2.



(8) Resolve a force of 90 Newtons into two forces of equal magnitude and the measure of the angle between them is 60°.

(9) Resolve a horizontal force of 180 Newtons in two perpendicular directions, one of which is inclined to the horizontal at an angle 30° measuring upward.

(10) A body of weight 50 Newtons is placed on a plane inclined at an angle 60° to the horizontal. Find the value of its weight component in the direction perpendicular to the plane's greatest slope.

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Weekly Assessment (Week Two) - Mathematics Applications

Group One

(1) Two forces of magnitude are 5 and 12 Newtons . If the measure of the angle between the two forces is α where $\alpha \in [0, \frac{\pi}{2}]$. find the interval in which the magnitude of the resultant of the two forces belongs , measured in Newtons .

(2) Two forces of magnitude are F , 15 Newtons acting at a point, and the measure of the angle between them is 120°, and the magnitude of their resultant are F Newtons . Find the value of F in Newtons .

(3) Resolve a force of 60 Newtons into two components inclined in the direction of the force at angles of measures 60° , 45° measuring in opposite directions. to the nearest tenth .

(4) A force of magnitude 70 Newtons acts in a Southern West direction. Find its components in the south and east directions.

(5) Place a body weighing 200 Newtons on a plane inclined at an angle of 45° to the horizontal. Find the value of its weight component in the direction of the plane's greatest slope.

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Group Two

(1) Two forces of magnitude are 10 and 24 Newtons . If the measure of the angle between the two forces is α where $\alpha \in [0, \frac{\pi}{2}]$. find the interval in which the magnitude of the resultant of the two forces belongs , measured in Newtons .

(2) Two forces of magnitude are F , 9 Newtons acting at a point, and the measure of the angle between them is 120°, and the magnitude of their resultant are F Newtons . Find the value of F in Newtons .

(3) Resolve a force of 150 Newtons into two components inclined in the direction of the force at angles of measures 60° , 45° measuring in opposite directions. to the nearest tenth .

(4) A force of magnitude 22 Newtons acts in a northeasterly direction. Find its components in the north and easterly directions.

(5) A body of weight 60 Newtons is placed on a plane inclined at an angle of 60° to the horizontal. Find the value of its weight component in the direction of the plane's greatest slope.

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Group Three

(1) Two forces of magnitude are 9 and 12 Newtons . If the measure of the angle between the two forces is α where $\alpha \in [0, \frac{\pi}{2}]$. find the interval in which the magnitude of the resultant of the two forces belongs , measured in Newtons .

(2) Two forces of magnitude are F , 11 Newtons acting at a point, and the measure of the angle between them is 120°, and the magnitude of their resultant are F Newtons . Find the value of F in Newtons .

(3) Resolve a force of 300 Newtons into two components inclined in the direction of the force at angles of measures 60° , 45° measuring in opposite directions. to the nearest tenth .

(4) A force of magnitude 7 Newtons acts in a Northen west direction. Find its components in the north and west directions.

(5) A body of weight 45 Newtons is placed on a plane inclined at an angle of 30° to the horizontal. Find the value of its weight component in the direction of the plane's greatest slope.

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