



وزارة التربية والتعليم و التعليم الفني
الادارة المركزية للتعليم العام
ادارة تنمية مادة الرياضيات

برعاية معالي وزير التربية والتعليم و التعليم الفني السيد الأسناذ / محمد عبد اللطيف

ونوجيهات رئيس الادارة المركزية للتعليم العام

د / هالة عبد السلام خفاجى

إشراف علمي
مسنشار الرياضيات

أ / منال عزقول

إدعاءات و تقييمات لمنهج تطبيقات الرياضيات لفان

للفصف الثانى الثانوي " علمى "

الفصل الدراسى الاول

للعام الدراسى 2026 / 2027

الاسبوع الثانى

مراجعة

إعداد

أ / محمود السيد

أ / محمد عبد العاطى

ترجمة

أ / محمود سليمان نظيم

مراجعة الترجمة

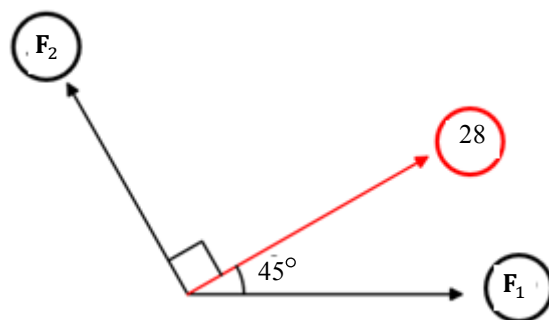
أ / عمرو فاروق

أ / شريف البرهامى

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 $\vec{F}_1$, $\vec{F}_2$, 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 .

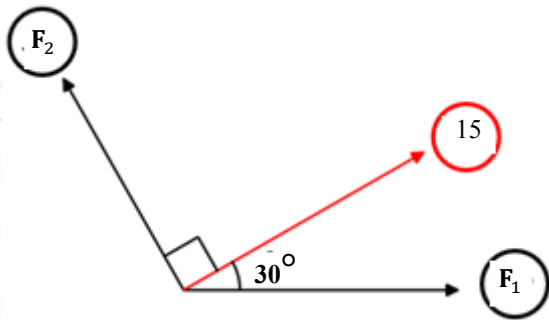
- (7) In the opposite figure:
If a force of 28 Newton is resolved into two components F_1 , F_2 , find the value of F_1 , F_2 .



- (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 $\vec{F}_1$, $\vec{F}_2$, 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 $\vec{F}_1$, $\vec{F}_2$.

- (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 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 .
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- (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.

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.

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.

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.