



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

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

ونوجيهات رئيس الإدارة المركزية للتعليم العام

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إشراف علمي
مستشار الرياضيات

أ / منال عزقول

إعداد و تقييمات لمنهج تطبيقات الرياضيات لغات

للصف الثاني الثانوي " علمي "

الفصل الدراسي الأول

للعام الدراسي 2026 / 2027

الاسبوع الأول

مراجعة

إعداد

أ / محمود السيد

أ / محمد عبد العاطي

ترجمة

أ / محمود سليمان نظيم

مراجعة الترجمة

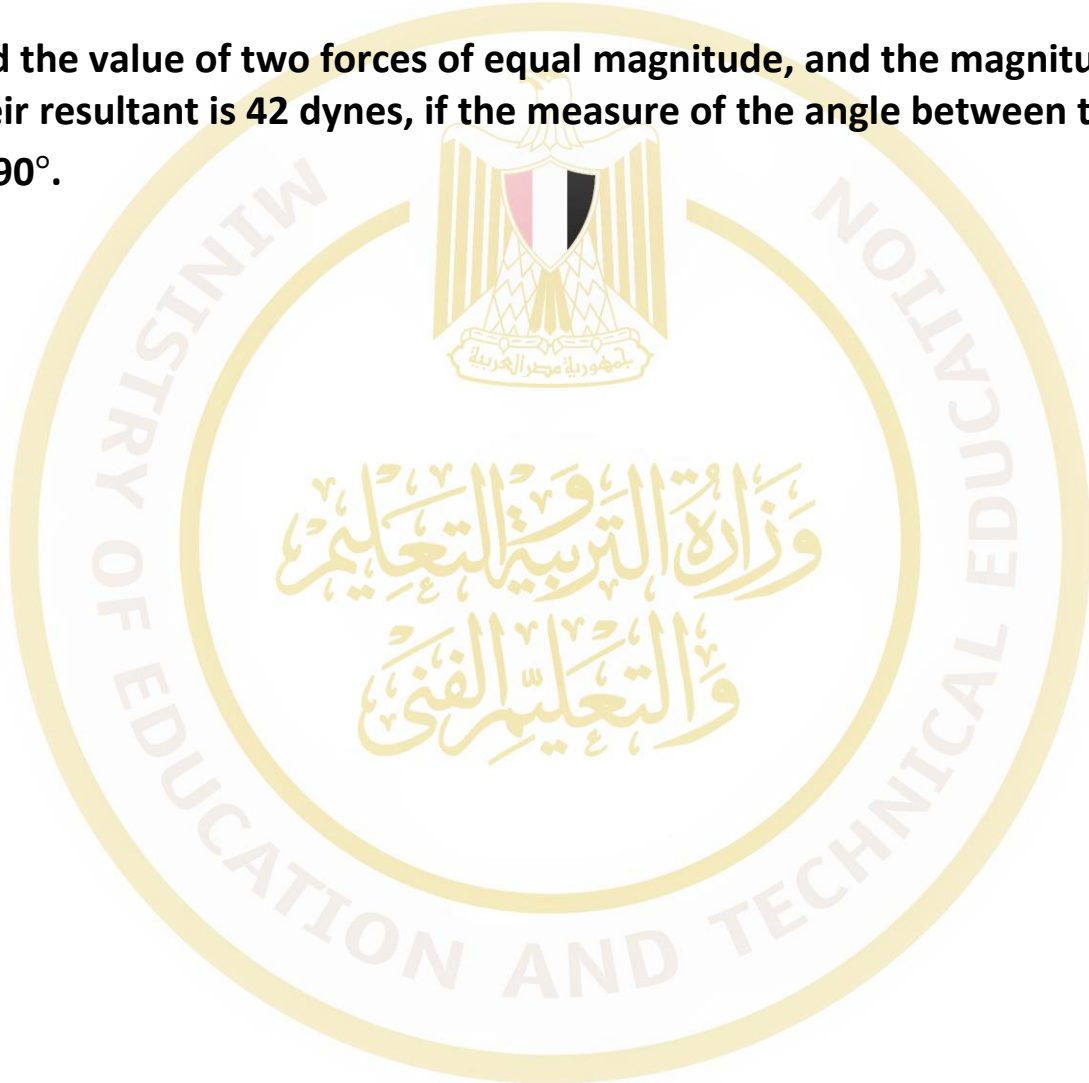
أ / عمرو فاروق

أ / شريف البرهامي

Classroom Performance (First Week) - Mathematics Applications

- (1) Two forces of magnitude 4 , 8 Newton act on a point and form an angle of 120° between them. Find the magnitude of their resultant.
- (2) Two forces act on a point. If the magnitude of the first force is 6 Newton and acts in East direction, and the magnitude of the second force is $6\sqrt{2}$ Newton and acts in a North Western direction, calculate the magnitude of the resultant.
- (3) Two forces of magnitude $2F$, $3F$ Newton and the magnitude of their resultant is $\sqrt{13} F$ Newton. Find the measure of the angle between the two forces.
- (4) Two forces of magnitude 9 , 18 Newton act on a point and their resultant is perpendicular to the first force. Find the measure of the angle between them.
- (5) Find the magnitude of the resultant of two forces of magnitudes 4 Newton, 2 Newton both acting at a point, and the resultant is perpendicular to one of them.
- (6) Two forces of equal magnitude meet at a point, and their resultant magnitude is 4 kg.wt. If we reverse the direction of one of them, the resultant magnitude is 3 kg.wt. Find the magnitude of each of the two forces.
- (7) Two forces of magnitude 5 , 3 Newton, both act at a point. If the resultant is perpendicular to the second force, find the magnitude of the resultant.

- (8) Two forces have magnitudes of 7 , F dynes, and the resultant bisects the angle between the two forces. Find the value of F .
- (9) The measure of the angle between two forces 60° , and the magnitude of their resultant is 7 Newton. Find the magnitude of each of the two forces if the difference between them is 2 Newton.
- (10) Find the value of two forces of equal magnitude, and the magnitude of their resultant is 42 dynes, if the measure of the angle between them is 90° .



Homework (Week 1) - Math Applications

- (1) Two forces of magnitude 15 , 8 kg.wt act on a point. If the magnitude of their resultant is 13 kg.wt, find the measure of the angle between these two forces.
- (2) Two forces of magnitude $8F$, $3F$ kg.wt and the magnitude of their resultant is $5F$ Kg.wt. Find the measure of the angle between the two forces.
- (3) Two forces act on a point. If their minimum resultant is 14 kg. wt and their maximum resultant is 36 kg .wt, find the magnitude of each force.
- (4) Two forces of equal magnitude form an angle of measure 60° between them, and their resultant magnitude is $30\sqrt{3}$ Newton. Find the magnitude of the two forces.
- (5) Two forces of magnitude 7 Newton, 14 Newton act at a point, and their resultant is perpendicular to the first force. Find the measure of the angle between the two forces.
- (6) Two forces of magnitude F , $\sqrt{2}$ Newton and the resultant bisect the angle between them , Find the value of F .
- (7) Two forces of magnitude F , $2F$ Newton act on a point and their resultant is perpendicular to the first force. Find the measure of the angle between them.
- (8) The measure of the angle between two forces 120° , and the magnitude of their resultant is 61 Newton. Find the magnitude of each of the two forces if the difference between them is 9 Newton.

- (9) Two perpendicular forces $\vec{F}_1$, $\vec{F}_2$ newtons act at a point. Their resultant magnitude is 84 newtons and makes an angle of 60° with $\vec{F}_1$. Find the magnitude of each of the two forces $\vec{F}_1$, $\vec{F}_2$.
- (10) Find the magnitude of the resultant of two forces of magnitude 4 Newton, 8 Newton both act at a point, and the resultant is perpendicular to one of them.



Weekly Assessment (Week One) - Mathematics Applications

Group One

- (1) Two forces act on a point. If their maximum resultant is 54 kg. wt and their minimum resultant is 18 kg .wt, find the magnitude of each force.
- (2) Two perpendicular forces 6 and 8 gm.wt, find the magnitude and direction of their resultant.
- (3) Two perpendicular forces $\vec{F}_1$, $\vec{F}_2$ Newton act at a point. Their resultant magnitude is 16 Newton and makes an angle of 30° with $\vec{F}_1$. Find the magnitude of each of the two forces $\vec{F}_1$, $\vec{F}_2$.
- (4) Two forces of magnitude $\sqrt{3} F$, $2F$ dyne act at a point, and their resultant is perpendicular to the first force. Find the angle between the two forces.
- (5) Two forces of equal magnitude form an angle of measure 120° between them, and their resultant magnitude is 50 Newton. Find the magnitude of the two forces.

Group Two

- (1) Two forces meet at a point with a magnitude of $4F$, $6F$ Newton, and the minimum value of their resultant is 24 Newton. Find the maximum value of their resultant.
- (2) Two forces of magnitude 24 , 26 Newton act on a point, and their resultant is perpendicular to the first force. Find the magnitude of their resultant .
- (3) Two forces of equal magnitude meet at a point, and their resultant magnitude is 24 kg.wt. If we reverse the direction of one of them, the resultant magnitude is 7 kg.wt. Find the magnitude of each of the two forces.
- (4) Find the value of two forces of equal magnitude, and the magnitude of their resultant is 6 dynes, if the measure of the angle between them is 90° .
- (5) Two perpendicular forces 9 and 40 dynes, find the magnitude and direction of their resultant.

Group Three

- (1) Two forces act on a point. If their maximum resultant is 100 kg. wt and their minimum resultant is 63 kg .wt, find the magnitude of each force.
- (2) Two perpendicular forces 10 and 26 gm.wt, find the magnitude and direction of their resultant.
- (3) Two perpendicular forces $\vec{F}_1$, $\vec{F}_2$ Newton act at a point. Their resultant magnitude is 32 Newton and makes an angle of 30° with $\vec{F}_1$. Find the magnitude of each of the two forces $\vec{F}_1$, $\vec{F}_2$.
- (4) Two forces of magnitude $3\sqrt{3} F$, $4 F$ dyne act at a point, and their resultant is perpendicular to the first force. Find the angle between the two forces.
- (5) Two forces of equal magnitude form an angle of measure 120° between them, and their resultant magnitude is 100 Newton. Find the magnitude of the two forces.