Darüssafaka 1863 LİSE

WORKSHEET

LESSON / SUBJECT: PHYSICS / SCALAR AND VECTOR QUANTITIES **DATE:**

SURNAME, NAME: **CLASS: 9**

1. Which of the following is <u>scalar</u> quantity? (Circle correct answers)

- Mass - Length - Force - Temperature - Volume - Energy
- Speed - Weight - Acceleration - Electric current

2. Which of the following is <u>vector</u> quantity? (Circle correct answers)

- Mass - Length - Force - Temperature - Volume - Energy
- Speed - Weight - Gravitational Acceleration - Electric current
- Displacement - Area - Velocity - Heat

3. Which of the following is wrong about "Force"?

A. It is derived quantity B. It is vector quantity C. The unit of it is Newton

D. The measurement device of it is equal arm balance

E. It can change shape of objects

4. Fill the table by using (+) and (-).

Quantity	Fundamental	Derived	Scalar	Vector
Mass				
Energy				
Force				
Time				
Electric Current				
Displacement				
Pressure				

Velocity				
Length				
Acceleration				
Speed				

7. **Which of followings is true according to figure.**

_____ $\overrightarrow{F_1} = -2\overrightarrow{F_2}$

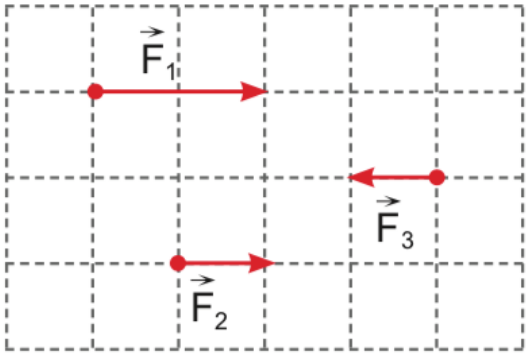
_____ $\overrightarrow{F_2} = \overrightarrow{F_3}$

_____ $\overrightarrow{F_1} + \overrightarrow{F_2} + \overrightarrow{F_3} = 2\overrightarrow{F_2}$

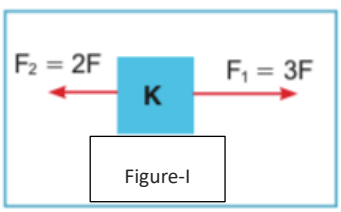
_____ $\overrightarrow{F_1} + \overrightarrow{F_2} = 3\overrightarrow{F_2}$

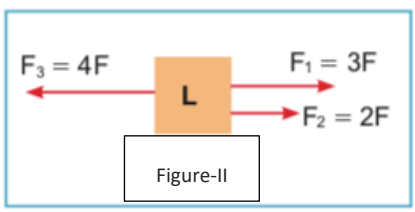
_____ $\overrightarrow{F_1} + \overrightarrow{F_3} = -\overrightarrow{F_2}$

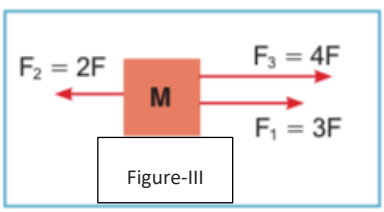
_____ $\overrightarrow{F_2} + \overrightarrow{F_3} = 0$



8. Find the resultant forces in the figures.







9. Carry out the following vector operations by using vectors in figure I and draw the resultant vectors in figure II.

I. $\vec{A}+\vec{C}+\vec{D}$ II. $\vec{H}+\vec{F}+\vec{D}+\vec{A}$ III. $\vec{E}+\vec{G}$ IV. $\vec{E}+\vec{B}+\vec{G}$

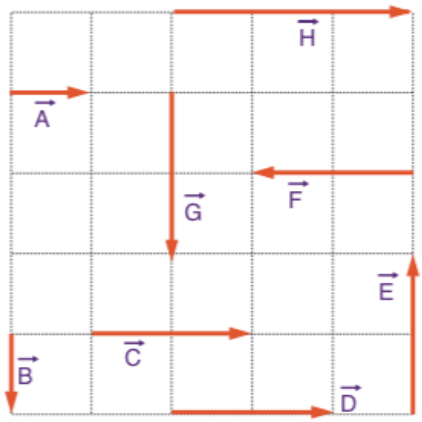


Figure-I

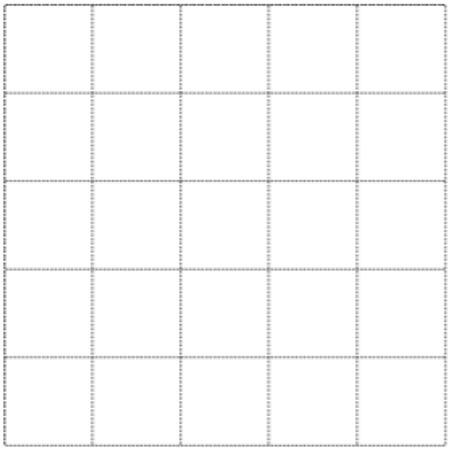


Figure-II

10. A, B and C forces are applied on the object X. **If the magnitude of A is 10 N, find the resultant force on object X.**