Mareya Al-Qebteya Secondery School

Physics

Chapter 5: Displacement and force in two dimensions

Lesson 1: Vectors

WS # 20

Name: ..... Grade 9 ( )

Exercise 1:

A student covers the following displacements. What are the magnitude and direction of his net displacement?

$$\overrightarrow{d_1} = 12\ m\ East$$
$$\overrightarrow{d_2} = 6.0\ m\ West$$
$$\overrightarrow{d_3} = 2.0\ m\ West$$

A. 4.0 m East

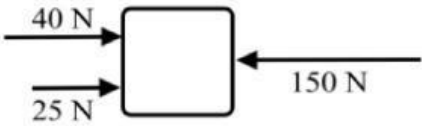
B. 8.0 m East

C. 16 m West

D. 18 m West

Exercise 2:

The figure below shows three forces acting on an object.



What is the resultant force on the object?

A. 85 N, to the right

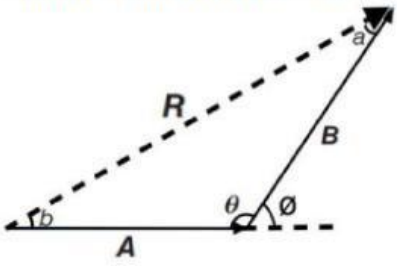
B. 85 N, to the left

C. 115 N, to the right

D. 115 N, to the left

Exercise 3:

. The diagram below shows two vectors A and B. Which of the following equations will give the correct resultant of the two vectors?



A. $R = \sqrt{A^2 + B^2 - 2AB\cos\theta}$

B. $R = \sqrt{A^2 + B^2 - 2AB\cos ø}$

C. $R = A^2 + B^2 - 2AB\cos\theta$

D. $R = A^2 + B^2 - 2AB\cos ø$

Exercise 4:

The figure below shows two forces 4 N and 5 N acting on an object. What is the resultant force on the object?

A. $\sqrt{21}$

B. $\sqrt{41}$

C. 21

D. 41