

# Vector Addition

⚠ This is a preview of the draft version of the quiz

Started: Nov 13 at 8:18am

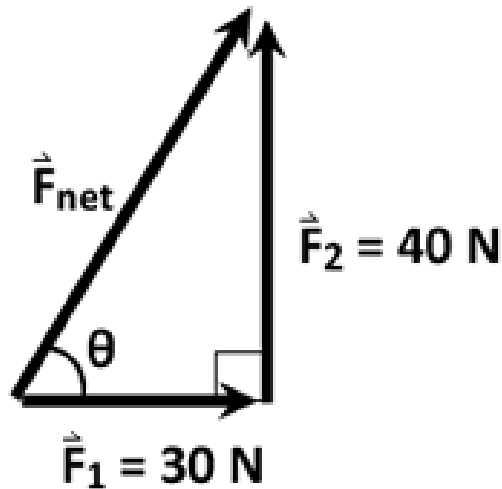
## Quiz Instructions

For the following questions, calculate the X and Y components and the Resultant Vectors where applicable. **Round all your answers to the nearest whole number UNLESS the instructions specifically state otherwise.**

**Negative and positive directions should be included. Do not include units.**

### Question 1

1 pts

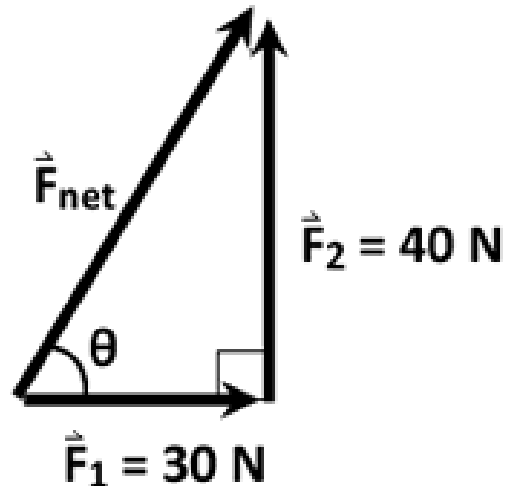


Calculate side  $F_{\text{net}}$ . **Round all of your answers to the nearest whole number.**

[Fnet] in Newtons

## Question 2

1 pts



Solve for theta. Round all of your answers to the nearest whole number.

## Question 3

1 pts

An airplane is accelerating to the right, 27-degrees up, from horizontal. If the acceleration of the plane is  $55.3 \text{ m/s}^2$ , calculate the vertical and horizontal acceleration of the airplane. Round your answers to the nearest whole number.

y-component

## Question 4

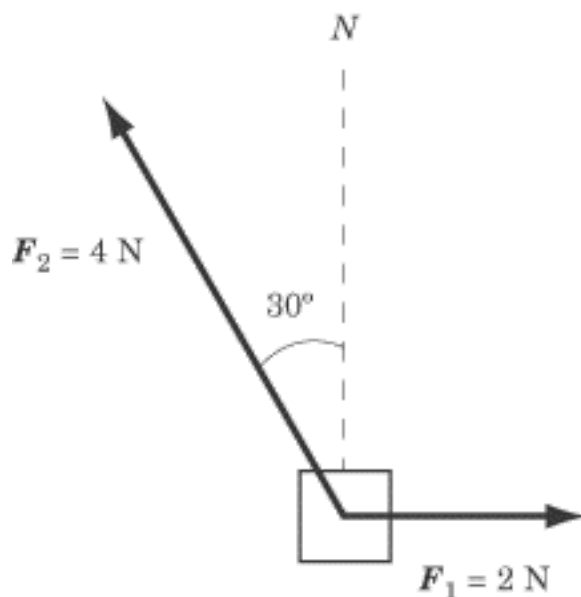
1 pts

An airplane is accelerating to the right, 27-degrees up, from horizontal. If the acceleration of the plane is  $55.3 \text{ m/s}^2$ , calculate the vertical and horizontal acceleration of the airplane. Round your answers to the nearest whole number.

x-component

### Question 5

1 pts

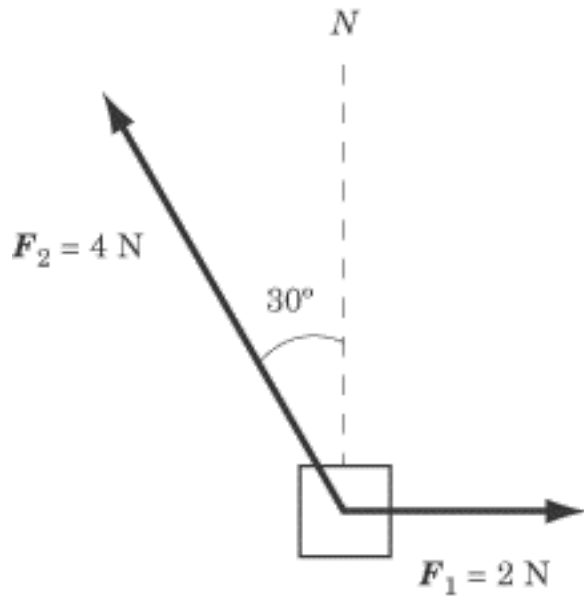


Add the above Vectors, calculate the resultant vector and associated angle. **Round your FINAL answers to the TENTHS PLACE.**

**Resultant magnitude in Newtons.**

## Question 6

1 pts

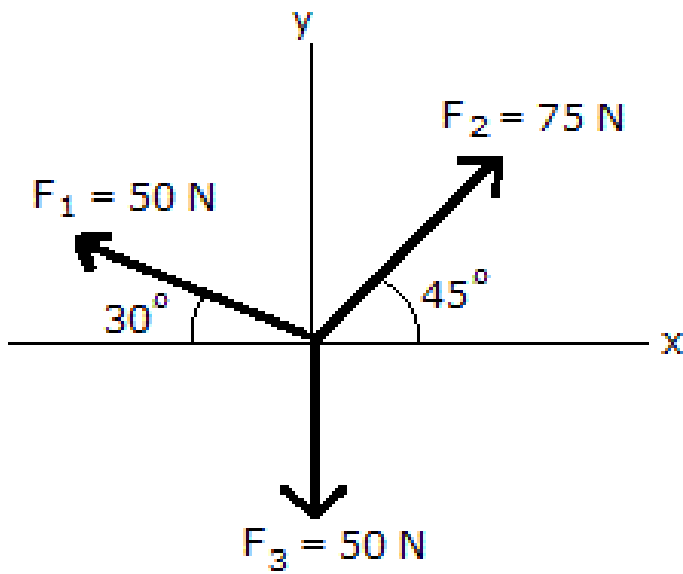


Add the above Vectors, calculate the resultant vector and associated angle. **Round your FINAL answers to the TENTHS PLACE.**

**Resultant angle in degrees from the horizontal.**

## Question 7

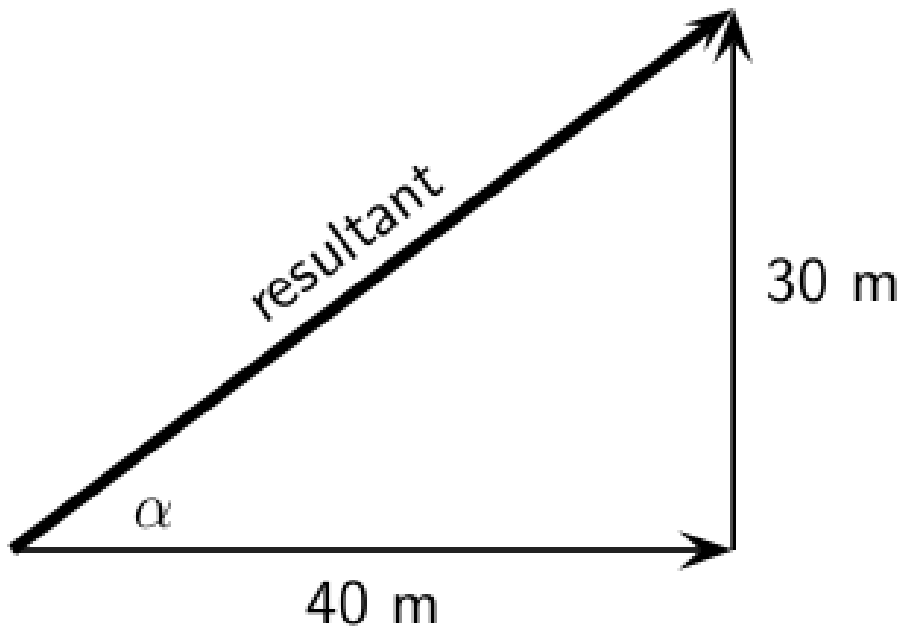
1 pts



According to the figure above, which vector has a negative x-component?<sup>1</sup>

- F3
- F2
- F1
- NONE OF THE ABOVE

**Question 8****1 pts**

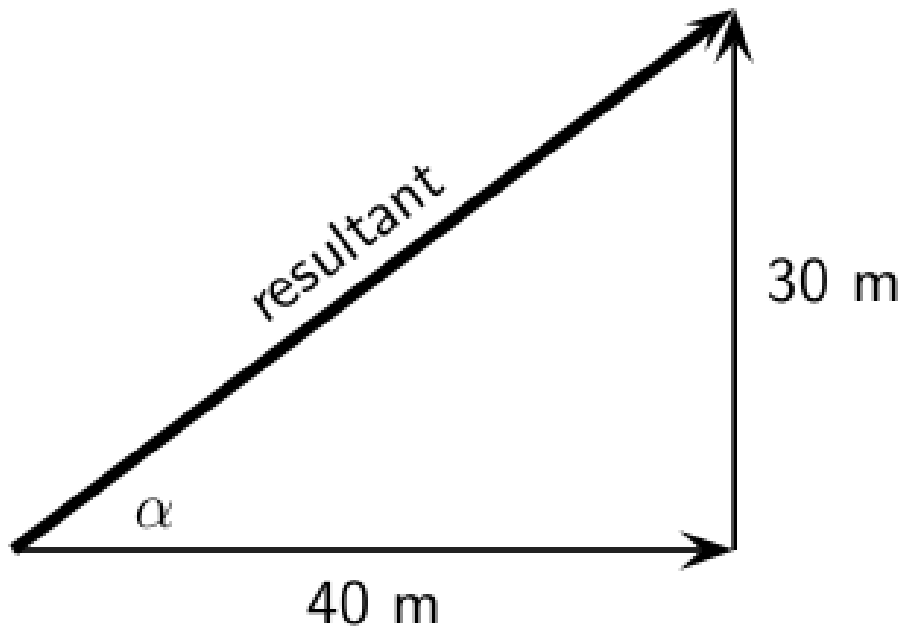


for the image above, calculate the resultant vector. **Round all your answers to the nearest whole number.**

Resultant magnitude in meters

**Question 9**

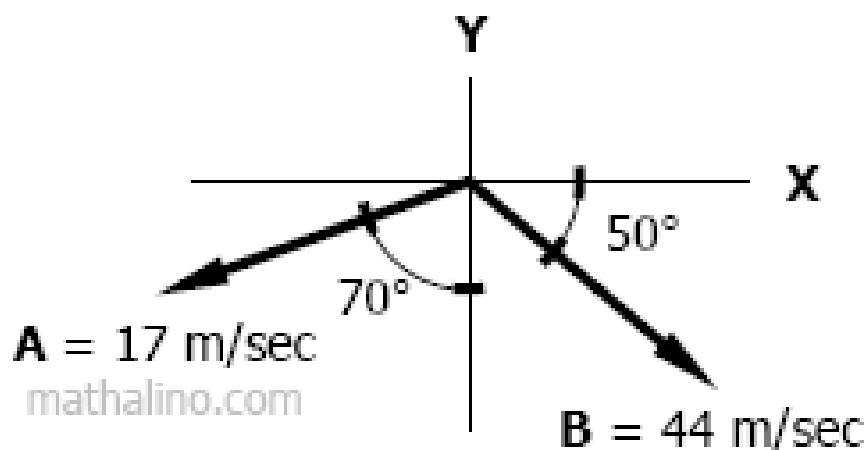
**1 pts**



for the image above, calculate the resultant angle alpha. **Round all your answers to the nearest whole number.**

### Question 10

1 pts



**Figure P-012**

For the figure above, calculate the X and Y components for vectors A and B, then find the resultant vector of using vector addition. Only provide the magnitude and angle for the

resultant. **Round all of your answers to the nearest whole number. Provide angle as a positive number with no direction.**

**X-component of vector A in m/s**

### Question 11

1 pts

For the figure above, calculate the X and Y components for vectors A and B, then find the resultant vector of using vector addition. Only provide the magnitude and angle for the resultant. **Round all of your answers to the nearest whole number. Provide angle as a positive number with no direction.**

**Y-component of Vector A in m/s**

### Question 12

1 pts

For the figure above, calculate the X and Y components for vectors A and B, then find the resultant vector of using vector addition. Only provide the magnitude and angle for the resultant. **Round all of your answers to the nearest whole number. Provide angle as a positive number with no direction.**

**X-component of vector B in m/s**



**Question 13****1 pts**

For the figure above, calculate the X and Y components for vectors A and B, then find the resultant vector of using vector addition. Only provide the magnitude and angle for the resultant. **Round all of your answers to the nearest whole number. Provide angle as a positive number with no direction.**

**Y-component of Vector B in m/s**

**Question 14****1 pts**

For the figure above, calculate the X and Y components for vectors A and B, then find the resultant vector of using vector addition. Only provide the magnitude and angle for the resultant. **Round all of your answers to the nearest whole number. Provide angle as a positive number with no direction.**

**Resultant magnitude in m/s**

**Question 15****1 pts**

For the figure above, calculate the X and Y components for vectors A and B, then find the resultant vector of using vector addition. Only provide the magnitude and angle for the resultant. **Round all of your answers to the nearest whole number. Provide angle as a positive number with no direction.**

**Resultant angle in degrees**

Not saved