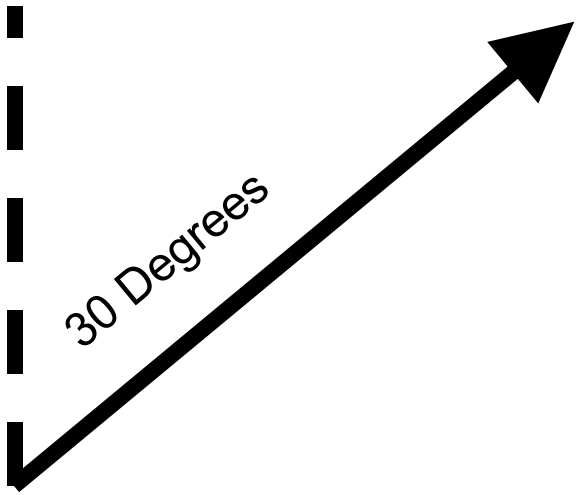
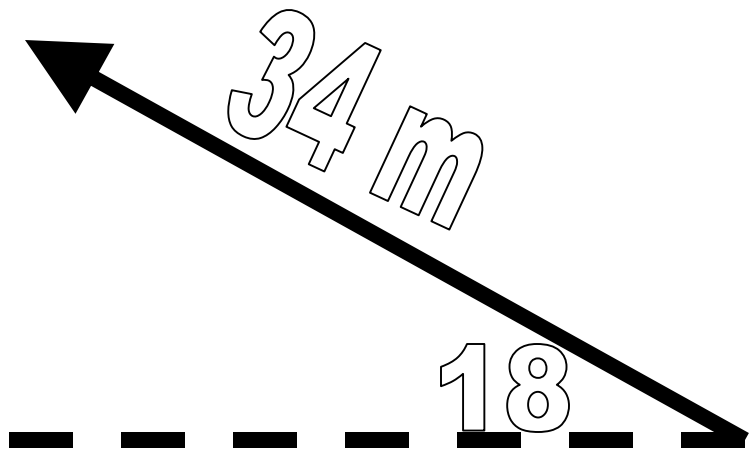
What is a vector?

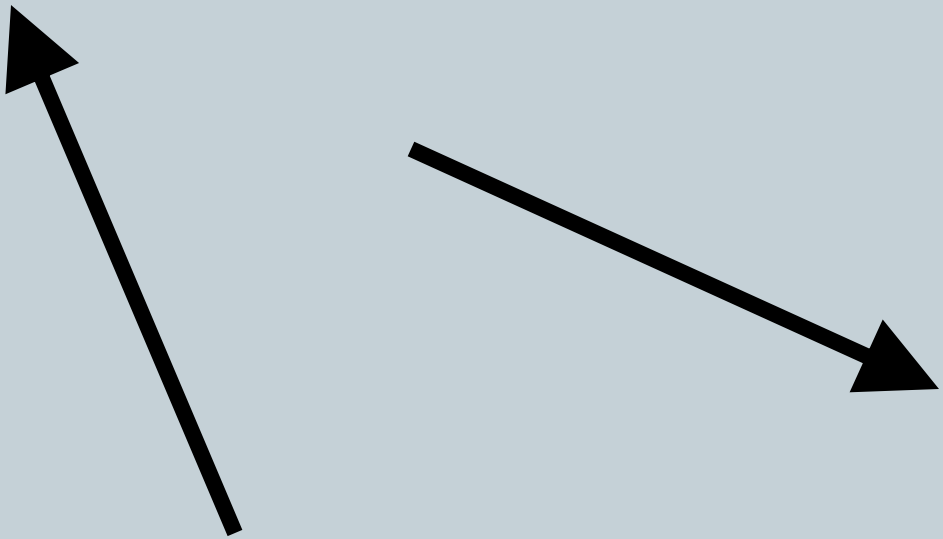
1. What is the direction of this vector?



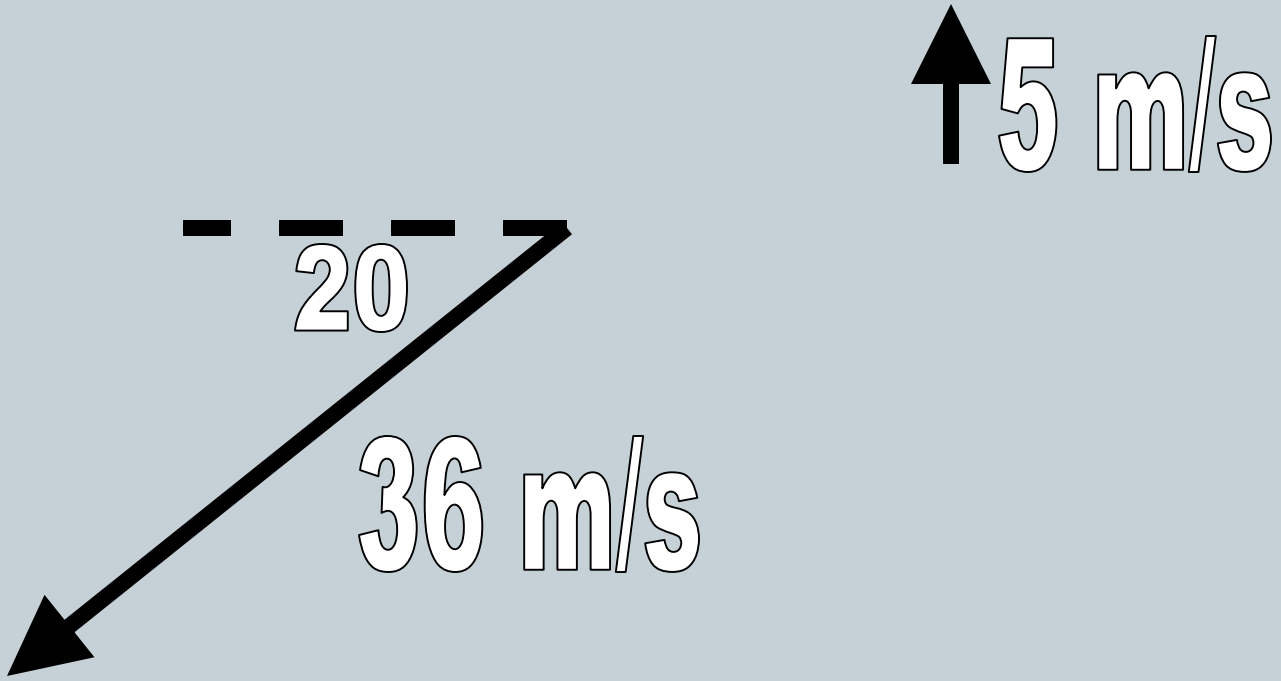
2. What are the X & Y components?



3. Draw the Resultant Vector

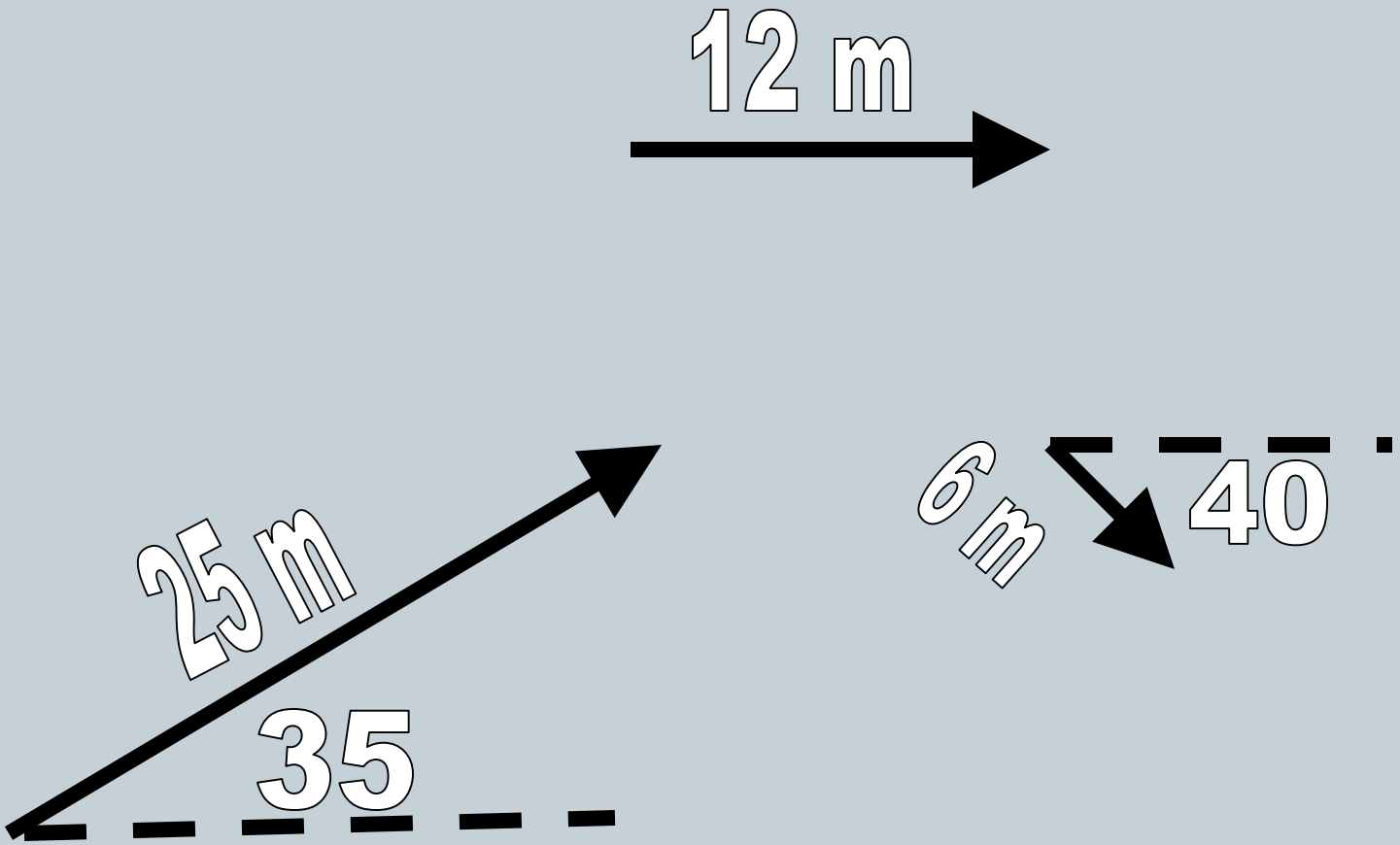


4. Find the Resultant Vector



- Did you remember direction?

5. Find the Resultant



6. Picnic Day

- Bobby and Sally were going on a picnic. Bobby being the boy scout that he was decided to mark his own trail. He walked 12 m at an angle of 45^{o} N of W. He then went 14 m at 26^{o} E of N and then finally walked 26 m directly W. Sally called from the car and wanted to know how far she had to walk and in which direction. First draw the picture and then figure out how to describe the location to Sally.

7. Picnic Day Continued

- Of the answer you just solved for Bobby and Sally which number was the magnitude and which one described the direction?

For More Practice

Go to this awesome website:

http://www.glenbrook.k12.il.us/gbssci/Phys/morehelp/vectaddn/practice.html

Note that when they have angles that are greater than 90 they have started on the positive x-axis and just kept going past the 90. Click on the solution if you have questions about that.

Answers: What is a vector

- A vector has a magnitude and a direction.
- Examples:
  - Force
  - Velocity
  - Displacement
  - Acceleration
- Non-Examples
  - Total distance travelled (this doesn't deal with a direction)

Answers continued

1. 30° E of N
2. X= -32.34 m, Y= 10.5 m
3. See diagram: small = Resultant
4. 34.59 m/s at 77.82° W of S
5. 38.51 m at 15.79° N of E
6. 31.67 m at 41.69° N of E
7. Magnitude: 31.67 m
   Direction: 41.69° N of E