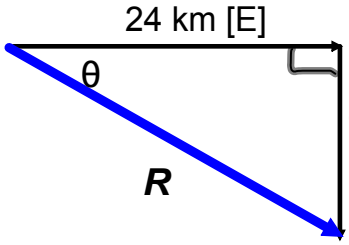
Examples - Finding a Resultant Analytically

(no scale needed)

Solution must include:
Labelled sketch (***R***, θ, and arrows)
magnitude of ***R*** and direction of ***R***.

1. Find the resultant of the following displacements: 24 km [E] and 14 km [S].



- Use Pythagorean T. (magnitude)
- Use Tan for finding θ.

$R^2 = 24^2 + 14^2$

$R = \sqrt{576 + 196}$

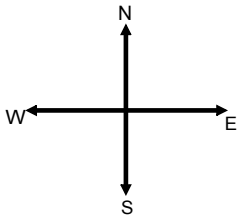
$R = 28\text{ km}$

$\tan\theta = \frac{14}{24}$

$\theta = \tan^{-1}\left(\frac{14}{24}\right)$

$\theta = 30^\circ$

$R = 28\text{km}\ [E30^\circ S]$



Try

2. Find the resultant of the following accelerations: 12 m/s^2 [N] and 5.5 m/s^2 [W]

13 m/s^2 [W65^{o}N]

3. Find the resultant of the following displacements: 34 m [W] and 42 m [S].

54 m [W51^{o}S]

Class Work: Resultant Vectors Worksheet - Part 2