Vector Resolution

- Sketch the original given vector with its tail placed in a compass to mark the origin.
- Sketch the horizontal (x-component) and vertical (y-component) vectors that would add to give the original vector. Label these vectors.
- Calculate the actual x and y components for the original vector using mathematics.

a) $\vec{V}_R = 450\ m/s\ [N\ 35^\circ\ W]$

b) $F_R = 28.94\ N\ [295^\circ]$

c) $a_R = 23.9\ m/s^2\ [S\ 29^\circ\ E]$

d) $\Delta d_R = 4.8 \times 10^5\ km\ [248^\circ]$

e) $\overrightarrow{V_R} = 62.8$ m/s [W]

f) $F_R = 3 \times 10^6$ N [S]

Answers: a) - 258 m/s [E], 369 m/s [N]
b) 12.23 N [E] , - 26.23 N [N]
c) 11.6 m/s^2 [E], -20.9 m/s^2 [N]
d) - 1.8 x 10^5 km [E], -4.4 x 10^5 km [N]
e) -62.8 m/s [E], 0 m/s [N]
f) 0 N [E], -3 x 10^6 N [n]