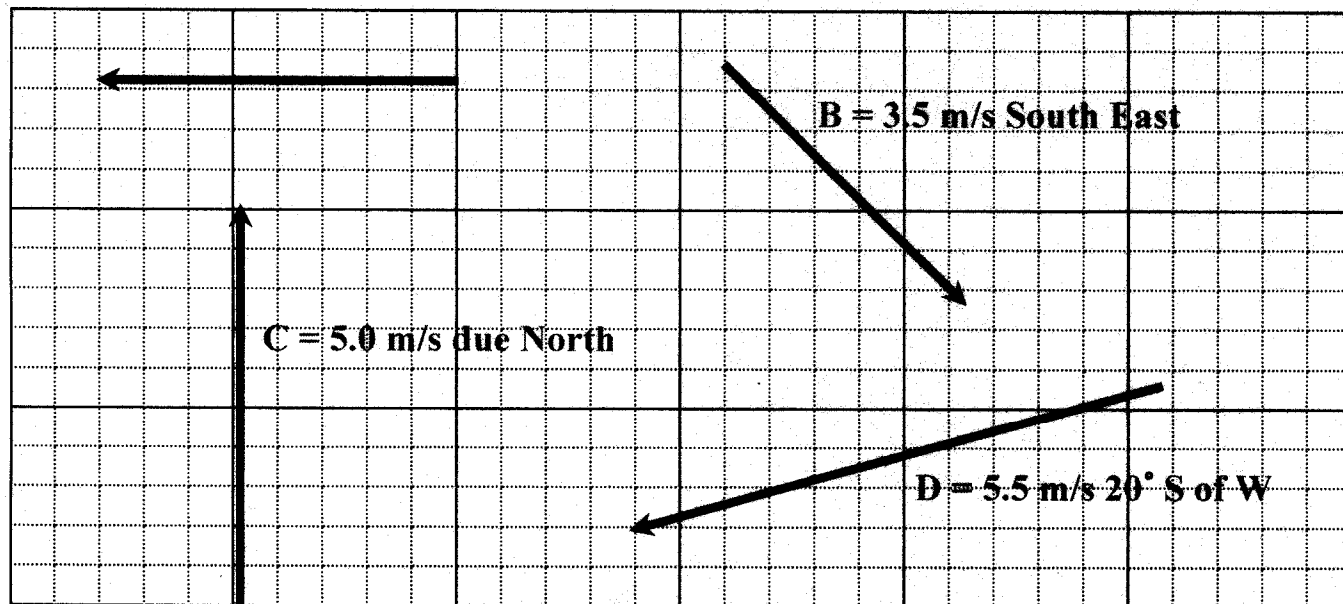

Problem Set 1.5: More Vector Equations

Solve all problems on your own paper showing all work!

Given the following 4 vectors:

 $A = 4.0 \text{ m/s due West}$


Solve for the following (direction & magnitude):

Use component method here

Vector	x component	y component
A	-4.00	0
B	+2.47	-2.47
C	0	+5.00
D	-5.16	-1.88

Answers

- $A + B = 2.91 \text{ m/s}; 32^\circ \text{ W of S}$ or $2.91 \text{ m/s}; 58^\circ \text{ S of W}$
- $C + A = 6.40 \text{ m/s}; 39^\circ \text{ W of N}$ or $6.40 \text{ m/s}; 51^\circ \text{ N of W}$
- $B + C + D = 2.76 \text{ m/s}; 13.5^\circ \text{ N of W}$ or $2.76 \text{ m/s}; 76.5^\circ \text{ W of N}$
- $B - A = 6.93 \text{ m/s}; 21^\circ \text{ S of E}$ or $6.93 \text{ m/s}; 69^\circ \text{ E of S}$
- $A - D = 2.21 \text{ m/s}; 32^\circ \text{ E of N}$ or $2.21 \text{ m/s}; 58^\circ \text{ N of E}$
- $B + C = 3.54 \text{ m/s}; 46^\circ \text{ N of E}$ or $3.54 \text{ m/s}; 44^\circ \text{ E of N}$
- $B - C = 7.88 \text{ m/s}; 72^\circ \text{ S of E}$ or $7.88 \text{ m/s}; 18^\circ \text{ E of S}$
- $A + B + C + D = 6.72 \text{ m/s}; 5.5^\circ \text{ N of W}$ or $6.72 \text{ m/s}; 84.5^\circ \text{ W of N}$
- $(C - A) + B = 6.95 \text{ m/s}; 21^\circ \text{ N of E}$ or $6.95 \text{ m/s}; 69^\circ \text{ E of N}$
- $(A - B) - D = 4.54 \text{ m/s}; 73^\circ \text{ N of W}$ or $4.54 \text{ m/s}; 17^\circ \text{ W of N}$