

Resultant Vectors Worksheet

Part I - Find the resultant, \vec{R} , graphically for each of the following:

1. From home a car drives 16 km [E], and then 24 km [S].
2. A person runs 2.0 m/s [N] then 4.0 m/s [E30.°N].
3. A ball is kicked 25 m [W20.0°S] then kicked again 35 m [W60.0°N].
4. A basketball is passed 15 m due West, then 20. m due North, and finally 8.0 m due East.
5. A police car drives 70. km due North, then 80. km [E40.°N], and finally 50. km [E50.0°S].
6. A laser beam travels 1500 km [W30.°S], 2100 km [E20.°S], and finally 2700 km [W10.°S].

Part II - Find the resultant, \vec{R} , analytically for each of the following:

1. 33.5 km [E] and 48.9 km [N].
2. 103 m/s [S] and 76 m/s [E].
3. 1500 m [W] and 850 m [S].
4. 45 km [W], 95 km [E], and 105 km [N] (hint: determine resultant of East-West vectors first).
5. 25 m/s [S], 77 m/s [E], 81 m/s [W], and 12 m/s [N].
6. 38 km [E], 92 km [W], 75 km [E], 115 km [N], 67 km [S], and 33 km [N].