Epidemiological evidences indicate a relationship between the intake of food rich in phenolic compounds and the reduction of certain chronic diseases and coronary heart disease mortality. Phytochemicals present in grapes, such as anthocyanins, and many of the flavonoids found in grape juice are known to exert antioxidant, anti-inflammatory and platelet inhibitory effects both in vitro and in animal studies. In this study, seven different Brazilian brands of whole grape juices (WGJ) were studied. The content of vitamin C was determined by the 2,6-dichloroindophenol titrimetric method and the total polyphenols of the grape juices were determined using the Folin-Ciocalteau method. The scavenging capacities of the samples were measured by DPPH$^*$ and β-carotene linoleic acid assays. The values of vitamin C were found to range from 6.8 ± 0.21 to 26.36 ± 0.81 mg/100 mL in the samples. Significant differences ($p\leq0.05$) were observed in total phenolic compounds (TPC) of the grape juices. The average value of TPC determined was 1,692.36 ± 74.37 mg GAE/L, whereas the highest and the lowest values of TPC were 2,187.50 ± 92.25 and 1,395.83 ± 56.81 mg GAE/L, respectively. Among the samples, the highest antioxidant activity detected by the (DPPH$^*$) test was 55.50% ± 1.2 (250 mg/L). β-Carotene linoleic acid assay showed higher values of antioxidant capacity of WGJ when compared to (DPPH$^*$) test. The average value found was 80.69% ± 2.1 and the highest antioxidant activity detected was 90.86% ± 3.4 (100 mg/L). This study demonstrated that Brazilian whole grape juices are excellent sources of polyphenols.