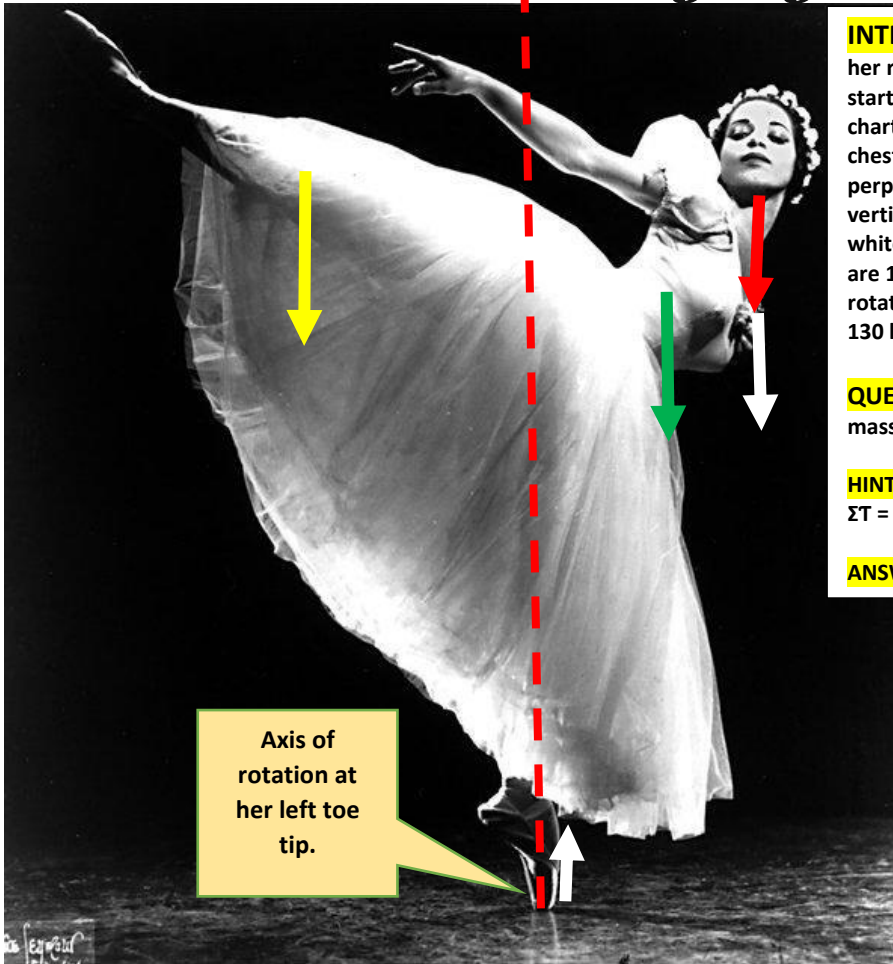


STATIC & ROTATIONAL EQUILIBRIUM Unit 15

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Raven Wilkinson, 83, Is Dead; Black Ballerina Braved Segregated South



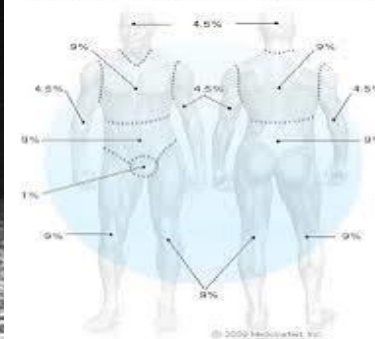
INTRODUCTION: Goal is to find distance her right leg center of mass is from vertical line starting from axis of rotation at her right toe. From chart below her: right leg weight is $0.18W$ (yellow), chest/back weight is $0.18W$ (green) & perpendicular distance from axis of rotation vertical line is 1 ft., her head & right arm (red & white arrow) have a weight of $0.18W$ together and are 1.5 ft. as perpendicular distance from axis of rotation red dotted vertical line. Her weight $W = 130$ lb.

QUESTION: (a) Find distance her right leg center of mass is extended to right? (b) Find force UP on toe?

HINTS: To be in rotational & static equilibrium: $\Sigma T = 0$, $\Sigma F_y = 0$, needed are solution equations

ANSWERS: (a) right leg lever arm = 2.5', (b) $F_{TOE} = 130$ lb.

Body Percentage in Adults: Rule of Nines



Raven Wilkinson in an undated photo. She was one of the first African-American dancers to perform with a major ballet company, the Ballet Russe de Monte Carlo, and later joined the Dutch National Ballet

By Marina Harss Dec. 20, 2018 Raven Wilkinson, one of the first African-American dancers to perform with a major ballet company, the Ballet Russe de Monte Carlo, died on Monday at her home in Manhattan. She was 83. Her brother, Frost Bernie Wilkinson Jr., confirmed her death but did not specify a cause. [The Ballet Russe de Monte Carlo](#) was a high-profile company that toured the United States in the 1940s and '50s, and the appearance of an African-American onstage as a Sylph or a Swan in the South could incur threats from the Ku Klux Klan. Though Ms. Wilkinson was lighter-skinned and encouraged to wear pale makeup onstage, she always refused to hide her race. In recent years, she was a mentor and friend to [Misty Copeland](#), who in 2015 became the [first African-American ballerina](#) to be named a principal dancer at American Ballet Theater in New York, one of the nation's most important companies. Ms. Copeland came across Ms. Wilkinson's story in the 2005 film "Ballets Russes," and credits her with having encouraged her to persevere in a field that is still heavily weighted toward white dancers. The two met in 2011, and in 2015, Ms. Wilkinson was present at Ms. Copeland's New York debut in the lead role of "Swan Lake," bringing her flowers onstage. Their friendship inspired Ms. Copeland's recent children's book, "Firebird."