

MATH FOR PHYSICS (converting units) Unit 1 Dr. John P. Cise, Professor of Physics,

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Rackets Provide Window Into Tennis's Top Three Men

Don't Use These at Home

The differences between the rackets wielded by today's top three men's tennis players speak to each player's distinct strengths and styles.



	Babolat AeroPro Drive GT	Head YouTek Speed MP	Wilson Six.One Tour BLX
MATERIALS	Graphite-tungsten	Graphite-Innegra	Graphite-basalt
HITTING SURFACE	645 sq. cm (100 sq. in.)	645 sq. cm (100 sq. in.)	580 sq. cm (90 sq. in.)
LENGTH	68.5 cm (27 in.)	68.5 cm (27 in.)	68.5 cm (27 in.)
WEIGHT (UNSTRUNG)	311 g (11.0 oz)	330 g (11.6 oz)	345 g (12.2 oz)
BALANCE	31.4 cm (9 pts. head light)	32.3 cm (6 pts. HL)	31.4 cm (9 pts. HL)
GRIP	2 (4Æ in.)	3 (4< in.)	3 (4< in.)
STRING PATTERN	16 (vert.) x 19 (horiz.)	18 x 20	16 x 19
STRING TENSION	25 kg (55 lbs.)	27-28 kg (60-62 lbs.)	22.5 kg (vert.), 21.0 (horiz.)
STRINGS	Babolat synthetic (both vert. and horiz.)	Head natural gut (vert.), Luxilon synthetic (horiz.)	Wilson natural gut (vert.), Luxilon synthetic (horiz.)
ALSO USE FRAME	Jo-Wilfried Tsonga, Francesca Schiavone	No other tour players	Grigor Dimitrov, Alexandr Dolgopolov

Sources: The companies

QUESTIONS: (a) For all three hitting surfaces convert cm² to Inch²? (b) For all three racket weights convert g(grams) to oz(ounces)? (c) For all three racket string tensions, convert tension in kg to lb(pounds)? (d)

For all three racket lengths convert length in cm to length in inches? **HINT:** 2.204 lb/kg, 2.54 cm = 1 inch, 16 oz/lb

ANSWERS: As shown in graphic at left.

WIMBLEDON, England — The top three men's players in the world tennis rankings — [Rafael Nadal](#), Novak Djokovic and [Roger Federer](#) — each possesses a distinct style and, more surprisingly, a distinct racket.

"If you give Nadal's racket to Federer, I think he would struggle, and I think going the other way would be even a lot harder," said Roman Prokes, one of [the leading racket customizers](#) who has worked for the United States Davis Cup team and many top players. "I really think Federer is one of those guys who can adjust the easiest to anything you give him, but Nadal's game, if you gave him Federer's racket, I think it would not be pretty." Federer's racket is the heaviest of the three, a little more than 12 ounces, and it has the thinnest beam, the sharpest edges and the smallest head, which is a source of growing debate within the sport. Nadal's racket is the lightest and has the smallest grip, along with a wide, rounded throat designed with the aerodynamics of his whipping forehand in mind.