



## Special Olympics Ohio

### Powerlifting Manual

The Official Special Olympics Sports Rules for Powerlifting shall govern all Special Olympics competitions. As an international sports program, Special Olympics has created these rules based upon International Powerlifting Federation (IPF) rules for Powerlifting found at <http://www.powerlifting-ipf.com/IPF> or National Governing Body (NGB) rules shall be employed except when they are in conflict with the Official Special Olympics Sports Rules for Powerlifting or Article I. In such cases, the Official Special Olympics Sports Rules for Powerlifting shall apply.

### Official Events

The range of events, including fundamental events, individual events, and relay events, is intended to offer competition opportunities for athletes of all abilities. Programs may determine the events offered and, if required, guidelines for the management of those events. Coaches are responsible for providing training and event selection appropriate to each athlete's skill and interest.

The following is a list of official events available in Special Olympics:

- Squat Bench press
- Dead lift
- Combination (Bench press and Dead lift)
- Combination (Squat, Bench press and Dead lift)
- Unified Sports® Powerlifting

### Equipment

#### BAR AND DISC SPECIFICATIONS

- Distance between collars: 1.31 m (4 ft, 3 1/2 in) at a maximum
- Total length outside the sleeves: 2.20 m (7 ft, 2 3/4 in) at a maximum
- Diameter of the bar: 28 mm (1 7/8 in) minimum; 29 mm (1 13/16 in) maximum
- Diameter of the largest disc: 45 cm (1 ft, 5 3/4 in)
- Weight of the largest disc: 25 kg (55 lb)
- Weight of the bar: 20 kg (45 lb) with collars: 25 kg (55 lb)
- Ohio uses plates that are based on pounds rather than kg.
- Collars shall always be used when discs are loaded on the bar.
- An athlete may have the option of using a 15kg bar for the bench press only. This bar may be used up to the point that the 20kg bar can be used by the athlete.

The bar will have the following characteristics and measurements:

- o Weight: 15kg
- o Length: 201 cm
- o Outer Ends (sleeves: 5 cm diameter/32 cm long and must rotate

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Created by the Joseph P. Kennedy Jr. Foundation for the benefit of persons with intellectual disabilities



- Grip section: 2.5 cm diameter/131 cm long  
2 (knurled) grip sections spaced 42 cm apart with non-knurled 0.5 cm strip 19.5 cm from inner sleeves

## **BENCH SPECIFICATIONS**

### ***Standard Flat Level Bench***

- Attached safety standards must be used for all events: Length: no less than 1.22 meters
- Width: 29–32 cm
- Height: 42–45 cm

### ***Disabled Flat Level Bench***

- Length: 2.1 m overall
- Head end width: 30.5 cm
- Height: 45-50 cm
- Main body width: 61 cm

## **COSTUME AND PERSONAL EQUIPMENT**

### ***Lifting Suit***

- The lifting costume shall consist of a one-piece, full-length lifting suit of one-ply stretch material without any patches or padding.
- A non-supportive weightlifting/wrestling-type suit is also a legal suit.
- The straps of the suit must be worn over the shoulders at all times while lifting in competition.
- It may be of any color or colors.
- Seams and hems must not exceed three centimeters in width and 0.5 centimeters in thickness.
- Only non-supportive suits may have seams and hems exceeding three centimeters in width.
- Seams may be protected or strengthened by narrow gauge webbing or stretch material not exceeding two centimeters in width and 0.5 centimeters in thickness.
- It must have legs, and the length of the leg must be a minimum of three centimeters and must not exceed 15 centimeters from the middle of the crotch measured down the inside of the leg from the crotch.
- Non-supportive weightlifting-type suits may have legs longer than 15 centimeters as long as they do not reach the knee and do not touch any knee wrap or knee-cap supporter.
- Only non-supportive type suits may have a double crotch.
- Long pants may not be worn.

### ***Undershirt***

- An undershirt (commonly known as a "T-shirt") of any color or colors must be worn under the lifting suit by all competitors during the performance of the squat and the bench press.
- It is optional for men, but mandatory for women to wear a T-shirt during the performance of the dead lift.



- The T-shirt is subject to the following conditions:
- Shall not be ribbed.
- Does not consist of any rubberized or similar stretch material. Specialized "Bench" shirts are not permitted.
- Does not have reinforced seams or seams which might tend to assist the lifter in competition.
- Must have sleeves, which do not terminate below the elbow or up at the deltoid.

### **Briefs**

- A standard commercial "athletic supporter" or standard commercial briefs of any mixture of cotton, nylon or polyester (but not swimming trunks or any other garment of rubberized or similar stretch) material shall be worn under the lifting suit.
- Specialized "Squat Briefs" shall not be worn. Women competitors shall wear non-supportive protective briefs or panties.

### **Footgear**

- Long socks (up to the knee) must be worn for the Dead lift.
- Sports type shoes e.g. trainers, powerlifting or weightlifting boots ONLY must be worn.
- No hiking or work boots allowed.
- The height of the heels shall not exceed five centimeters.

### **Belt**

- A belt made of leather, vinyl, nylon or other similar non-stretch or nonmetal (other than buckle and stud attachments material) may be worn on the outside of the suit.
- Dimensions
  - o Width: A maximum of 10 cm
  - o Thickness: A maximum of 13 mm
- The belt may not encircle the body more than once.
- Belts shall not have additional padding.

### **Wrist Wraps**

- Wrist wraps of a maximum width of eight centimeters and a maximum length of one meter may be worn.
- A wrist wrap shall not extend beyond 10 centimeters above or two centimeters below the center of the wrist. In lieu of wrist wraps, wristbands not exceeding 10 centimeters in width may be worn.
- If wrist wraps are wrap-around style, with or without stitching, to form a sleeve, they may have Velcro patches not exceeding 30 centimeters in total length and eight centimeters in width as well as a thumb loop. The total length of a wristband shall not exceed 50 centimeters. The thumb loop shall not be over the thumb during the competitive lift.



### ***Knee wraps***

- Wraps not exceeding two meters in length and eight centimeters in width may be used. When worn, wraps should not be in contact with the socks or the lifting suit.

### ***Supportive wraps***

- Only IPF approved wraps shall be permitted for use in powerlifting competitions. Non-supportive wraps made of medical crepe or bandage and sweatbands do not require IPF approval.

### ***Substances***

- Baby powder, pool-hall chalk, liquid chalk, resin, talc or magnesium carbonate are the only substances that may be added to the body or attire.
- The use of oil, grease, or other lubricants is forbidden.

### ***Modifications***

- Athletes with physical disabilities (e.g., wheelchair, cerebral palsy, amputees), may wear a two-piece outfit with both upper and lower pieces being form fitting; either snug-fitting track trousers or snugfitting shorts may be worn. A full-length aerobic suit may be worn while performing the bench press. Lifting with a prosthesis is allowed and orthosis with shoes will be allowed.

## **Divisions and Competition Schedule**

### **DIVISIONS**

Athletes shall be placed in divisions according to gender, age, ability and weight class.

- Age Divisions
  - o Minimum age to compete: 14
  - o Sub-Junior: 14-18
  - o Junior: 19-23
  - o Senior: 24-39
  - o Master: 40 and over
- Weight Classes
  - o Weight classes are a divisioning tool which groups athletes according to body weight which is the primary determinant of ability.
  - o The Wilkes Formula should be used when there are not enough athletes to have at least three athletes per weight class or to place the combined score of an athlete and partner for Special Olympics Unified Sports® powerlifting.

Male		Female	
Kilograms	Pounds	Kilograms	Pounds
53kg	111lb	43kg	95.75lb
59kg	130lb	47kg	103lb



66kg	145.5lb	52kg	114.5lb
74kg	163lb	57kg	125.50lb
83kg	183lb	63kg	139lb
93kg	205lb	72kg	158.50lb
105kg	231lb	84kg	185lb
120kg	264.5lb	84+kg	185.25+lb
120+kg	264.75+lb		

- Divisions within gender, age and weight categories should be based upon "opening attempts." The athlete's opening attempt should be based upon a previous official performance and should not be significantly higher or lower (except in the case of injury). In that case, the athlete's previous performance must have been within the previous six to 12 months. A signed score sheet or score card must be provided to verify the athlete's prior performance.

## WEIGH-IN

- An athlete's weight category must be declared at the technical meeting to be scheduled and announced prior to the first day of competition.
- The weigh-in of competitors must take place two hours before the beginning of competition for a particular category and be completed in no more than one hour and thirty minutes. All the lifters in the category must attend the weigh-in, which shall be carried out in the presence of the three referees appointed for the category.
- Weigh-in will be in secret and the lifters will be allowed in one at a time. The weigh-in room will be locked and the persons allowed in it are the referees for the body-weight classes, the lifter and his/her coach or trainer. The weigh-in results will not be made known until all the lifters in a particular weight class have been weighed in.
- Each competitor can only have his/her official weight registered once. Only those heavier or lighter than the category limit are allowed to return to the scales within the limits of the hour and thirty minutes allowed from the beginning of the weigh-in.
- An athlete weighing in above the upper limit for a weight class will be moved to the next heavier weight class. An athlete weighing in below the minimum limit for a weight class may, at the discretion of the Chief Referee, be permitted to lift in the next lightest weight class if that competition is available. If competition in the lighter weight class is not available, the athlete will be permitted to lift outside the official competition and receive a participant's ribbon.

## ROUNDS SYSTEM

- Lifters will be divided into flights of no more than 14 lifters in each flight.
- In each flight, the lifter with the lightest attempt will lift first, and the weight loaded onto the bar will be progressively increased until everyone in the flight has lifted. The bar will then be unloaded and second attempts will be performed in the same fashion, followed by third attempts.



- In no case can the weight be reduced after the lifter has attempted to perform a lift with the announced weight. Then the next flight will lift.

## Personnel

### REFEREES

- The Chief Referee shall be seated in front of the platform. The three referees may seat themselves according to the best vantage points; usually the Chief Referee sits directly in front of the platform and the other two referees on each side of the platform.
- The Chief Referee will be solely responsible for decisions made in the case of loading errors or incorrect announcements by the speaker. The Chief Referee's decision will be given to the speaker who will make the appropriate announcement.

### TIMEKEEPER

- A timekeeper shall also be appointed and shall be a certified official.

### PLATFORM MANAGER

- A Platform Manager shall be appointed and shall be a certified official.

## Rules of Competition

### GENERAL RULES AND MODIFICATIONS

- During any competition organized on a platform or stage, no one other than the lifter, the members of the jury, the officiating referees, assigned medical personnel, assigned platform personnel and the manager and/or the competing lifter's coach shall be allowed around the platform or on the stage.
- Before the beginning of competitions, the referees and platform officials must check the weight of the bar and discs so that the total weight may be identical with that announced.
- An area on the stage to the left and behind the Chief Referee will be marked and may be occupied by the coach during the performance of his/her athlete's lift attempt. The coach may give manual signals.
- Each competitor shall be allowed a period of one minute from the calling of his/her name to the starting of the attempt. If the delay exceeds one minute, the attempt shall be forfeited. The clock shall stop when the lifter starts the lift properly. Lifters with anatomical (physical) disabilities (as stated on the expedite card at the time of the weigh-in) will be granted extra time, up to three minutes if needed.
- First round attempts should be submitted at weigh-ins.
- A lifter must submit his second or third attempts within one minute of completing his preceding attempt. The one minute will begin from the time the lights are activated. If no weight is submitted within the one-minute time allowance, the lifter will be granted a 2.5 kilograms increase on his next attempt. Should the lifter have failed his previous attempt, and not



submitted a weight for a further attempt within the one-minute time allowance, then the bar will be loaded to the failed weight.

- A lift must be declared "no lift," and the lifter must be disqualified if, in the majority opinion of the judges and Chief Referee, the weights were dropped intentionally.
- Scoring of the events shall be the maximum weight lifted for each event and a total combination maximum weight for all events.
- The Wilkes Formula (WF \* See Appendix) is presented, in kilograms, as a table of coefficients. Each lifter has a coefficient determined by bodyweight (BW). To determine the placing of lifters, multiply each lifter's coefficient by his/her total. The resulting factor is his/her Wilkes Formula Total (WFT). The lifter having the highest WFT is awarded first, the second highest second, etc.

## **EVENT SPECIFIC RULES AND MODIFICATIONS**

### ***Squat***

- The lifter shall assume an upright position with the top of the bar not more than 3 centimeters below the top surface of the anterior deltoids. The bar shall be held horizontally across the shoulders with the hands and fingers gripping the bar (not the collars) and the feet flat on the platform with the knees locked.
- After removing the bar from the racks, the lifter must move backward to establish his/her position. The lifter shall wait in this position for the Chief Referee's signal. The signal shall be given as soon as the lifter is motionless and the bar properly positioned. If mechanical racks that withdraw are used, the lifter must remove the barbell from the racks before they are withdrawn and wait motionless for the Chief Referee's signal. The signal shall consist of a downward movement of the arm and audible command "Squat."
- Upon receiving the Chief Referee's signal, the lifter must bend and lower the body until the top surfaces of the legs at the hip joints are lower than the top of the knees.
- Illustration showing proper depth in squat.
- The lifter must recover at will without double bouncing or any downward movement after starting to an upright position with the knees locked. When the lifter is motionless, the Chief Referee will give the signal to replace the bar.
- The signal to replace the bar will consist of a backward motion of the hand and the audible command "Rack." The lifter must then make a bona fide attempt to return the bar to the racks.
- The lifter shall face the front of the platform.
- The lifter shall not hold the collars, sleeves or discs at any time during the performance of the lift. However, the edge of the hands, gripping the bar, may be in contact with the inner surface of the collars.
- Not more than five and not fewer than two spotters/loaders shall be on the platform at any one time.



- The lifter may enlist the help of the spotters/loaders in removing the bar from the racks, and replacing the bar in the racks at the conclusion of the lift; however, once the bar has cleared the racks, spotters/loaders shall not assist the lifter further with regard to proper positioning, foot placement, bar positioning, etc.
- The lifter may, at the Chief Referee's discretion, be given an additional attempt at the same weight if failure in an attempt was due to an error of one or more of the spotters/loaders or equipment failure.
- An athlete with Down syndrome who has been diagnosed with Atlanto-axial Instability may not participate in the back squat lift in powerlifting. For additional information and the procedure for waiver of this restriction, please refer to General Rules Article 2, Section 2.02G.
- Causes for Disqualification in the Squat
  - o Failure to observe the Chief Referee's signals at the commencement or completion of the lift
  - o Double bouncing or more than one recovery attempt at the bottom of the lift
  - o Failure to assume an upright position with knees locked at the commencement and completion of the lift
  - o Any shifting of the feet laterally, backward, or forward, during the performance of the lift.
  - o Failure to bend the knees and lower the body until the top surfaces of the legs at the hip
  - o Joints are lower than the top of the knees.
  - o Changing the position of the bar across the shoulders after the commencement of the lift
  - o Contact of the bar or the lifter by the spotters/loaders between the Chief Referee's signals
  - o Contact of elbows or upper arms with the legs
  - o Failure to make a bona fide attempt to return the bar to the racks
  - o Any dropping or dumping of the bar after completion of the lift
  - o Failure to comply with any of the requirements contained in the general description of the lift

### ***Bench press***

- The lifter must assume the following position on the bench, and maintain this position during the entire lift: the head and trunk (including buttocks) must be in contact with the surface of the bench, and the feet must be on the floor or plates. To achieve firm footing, flat-surfaced discs or blocks (not exceeding 30 centimeters in height) may be used. Lifters with physical disabilities shall be given the opportunity to use either the standard or the special bench for disabled lifters. The hands must grip the bar with the thumbs around grip, thus locking the bar safely in the hands. The use of the reverse grip is forbidden.





- Lifters with physical disabilities may be strapped to the bench from the ankles to the hips using a strapping belt not to exceed 10 centimeters in width.
- After removing the bar from the racks or receiving it from the spotters/loaders, the lifter shall wait with elbows locked for the Chief Referee's signal. The signal shall be given as soon as the lifter is motionless and the bar properly positioned at full arms extension.
  - o Not more than four and not fewer than two official spotters/loaders shall assist in the competition areas.
  - o The spacing of the hands shall not exceed 81 centimeters, measured between the index fingers.
  - o Athletes who are anatomically unable to fully lockout a bench press must have a certified coach state so at the weigh-in. A medical certificate should accompany the request. No changes in proper lifting techniques can be made for the lifter after weigh-in.
  - o The Chief Referee's signal shall consist of a downward movement of the arm together with the audible command: "Start."
  - o After receiving the start signal, the lifter must lower the bar to the chest and hold it motionless. The Chief Referee shall give the audible signal "Press," at which time the bar shall be pressed upward with an even extension of the arms. When held motionless in this position, a visible signal consisting of a backward movement of the arm together with the audible command "Rack" shall be given. In case of a hearing impaired lifter, tactile signals may be employed.
  - o In this lift, the referees shall station themselves at the best vantage points.
- Causes for disqualification in the bench press
  - o Failure to observe the Chief Referee's signals at the commencement or completion of the lift
  - o Any change in the elected position after the "Start" signal; i.e., raising movement of the head/shoulders, buttocks or feet from their original points of contact with the bench or floor, or lateral movement of the hands on the bar. At no point may the athlete's feet come in contact with the bench or its supports.
  - o Any heaving or bouncing of the bar from the chest after it has been motionless on the chest
  - o Any pronounced/exaggerated uneven extension of the arms during the lift
  - o Any downward movement of the bar in the course of being pressed out
  - o Failure to press the bar to full arms extension (full arms length) at the completion of the attempt
  - o Contact with the bar of lifter by the spotters/loaders between the Chief Referee's signals
  - o Deliberate contact between the bar and the bar-rest uprights during the lift to make the lift easier



- Failure to comply with any of the requirements contained in the general description of the lift

### ***Dead lift***

- The bar must be positioned horizontally in front of the lifter's feet, gripped with an optional grip in both hands and lifted without downward movement until the lifter is standing erect. (Grip option: when gripping the bar, either the backs of both hands face front or the back of one hand and the palm of the other hand face front in what is called the over and under grip).
- The lifter shall face the front of the platform.
- On completion of the lift, the knees shall be locked in the straight position and the shoulders should be held in an erect position (not forward or rounded). The shoulders do not have to be thrust back past an erect position; however, if they are thrust back in that manner, and all other criterion are acceptable, the lift shall be accepted.
- The Chief Referee's signal shall consist of the downward movement of the hand and the audible command "Down." The signal will not be given until the bar is held motionless and the lifter is in the completed position as determined by the Chief Referee.
- Any attempts to raise the bar or deliberate attempts to lift the bar shall count as an attempt.
- Causes for disqualification in the dead lift
  - Any downward movement of the bar or either end of the bar during the lift
  - Failure to stand erect with the shoulders in an erect position
  - Failure to lock the knees straight at the completion of the lift
  - Supporting the bar on the thighs during the performance of the lift. Note: Supporting the bar on the thighs may include also a secondary bending of the knees and dropping of the hips.
  - Lowering the bar before receiving the Chief Referee's signal
  - Allowing the bar to return to the platform without maintaining control with both hands
  - Failure to comply with any of the requirements contained in the general description of the lift

### ***Combination***

- An athlete is required to compete in the bench press and dead lift combination, or the squat, bench press and dead lift combination to qualify for final score in the combination event.
- An athlete's final score is calculated by adding together the maximum weight he/she successfully lifted in the bench press and dead lift, or the squat, bench press and dead lift.
- Three unsuccessful attempts in any of the lifts will automatically eliminate the lifter from a Combination Event.

### ***Unified Sports®***

- This division will be composed of Special Olympics athletes and their Unified partner. While there should be an attempt to match athlete and partner teams by weight and ability, this is not always possible or necessary when each partner and athlete are provided a coefficient



from the Wilkes formula found in the Special Olympics rules. Athlete and partner competition and scoring will be based upon the following:

- Each team Includes a Special Olympics athlete and Special Olympics partner
- Each athlete and partner compete against other athletes and partner teams.
- Each athlete and partner are scored based upon combined weight lifted. An example is: Athlete (Team A) squats 150 kgs , benchpresses 100 kgs and deadlifts 200 kgs for a total of 450kgs. Partner (Team A) squats 175 kgs, benchpresses 125 kgs and deadlifts 250 kgs for a total of 550 kgs. Their combined weight lifted total is 1000Kg.
- They are competing against an Athlete (Team B) who squats 185 kgs, benchpresses 105 kgs and deadlifts 205 kgs for a total of 495 kgs. That athlete's partner (Team B) squats 165 kgs, benchpresses 110 kgs and deadlifts 255 kgs for a total of 530 kgs. Their combined weight lifted total is 1025 kgs.
- In order to take away any advantage of bodyweight any athlete and partner might have, a formula (Wilkes coefficient) is applied to each of athlete and partner bodyweight to put them on a level playing field. In the case above, athlete (Team A) weighs 60 kgs and partner (Team A) weighs 95 kgs. Athlete (Team B) weighs 70 kgs and Partner, Team B weighs 110 kgs.
- Each athlete and partner team places are determined based upon combined Wilkes coefficient, based upon their body weight times combined weight lifted.
- Competitions may include or be exclusively two lift meets (Bench Press and Deadlift). In this case, the same scoring process as outlined above would apply.
- While most athlete and partner teams will be gender specific, mixed or coed teams may be included in a specific division (e.g. male athlete and female partner team competing against other male athlete and female partner teams or female athlete and male partner team competing against other female athlete and male partner teams.
- For IPF Unified Powerlifting competitions, the scoring process outlined above would also apply. with the only requirement being the athlete and partner are IPF members.



## WILKES FORMULA FOR MEN

BW	0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
40	1.3354	1.3311	1.3268	1.3225	1.3182	1.3140	1.3098	1.3057	1.3016	1.2975
41	1.2934	1.2894	1.2854	1.2814	1.2775	1.2736	1.2697	1.2658	1.2620	1.2582
42	1.2545	1.2507	1.2470	1.2433	1.2397	1.2360	1.2324	1.2289	1.2253	1.2218
43	1.2183	1.2148	1.2113	1.2079	1.2045	1.2011	1.1978	1.1944	1.1911	1.1878
44	1.1846	1.1813	1.1781	1.1749	1.1717	1.1686	1.1654	1.1623	1.1592	1.1562
45	1.1531	1.1501	1.1471	1.1441	1.1411	1.1382	1.1352	1.1323	1.1294	1.1266
46	1.1237	1.1209	1.1181	1.1153	1.1125	1.1097	1.1070	1.1042	1.1015	1.0988
47	1.0962	1.0935	1.0909	1.0882	1.0856	1.0830	1.0805	1.0779	1.0754	1.0728
48	1.0703	1.0678	1.0653	1.0629	1.0604	1.0580	1.0556	1.0532	1.0508	1.0484
49	1.0460	1.0437	1.0413	1.0390	1.0367	1.0344	1.0321	1.0299	1.0276	1.0254
50	1.0232	1.0210	1.0188	1.0166	1.0144	1.0122	1.0101	1.0079	1.0058	1.0037
51	1.0016	0.9995	0.9975	0.9954	0.9933	0.9913	0.9893	0.9873	0.9853	0.9833
52	0.9813	0.9793	0.9773	0.9754	0.9735	0.9715	0.9696	0.9677	0.9658	0.9639
53	0.9621	0.9602	0.9583	0.9565	0.9547	0.9528	0.9510	0.9492	0.9474	0.9457
54	0.9439	0.9421	0.9404	0.9386	0.9369	0.9352	0.9334	0.9317	0.9300	0.9283
55	0.9267	0.9250	0.9233	0.9217	0.9200	0.9184	0.9168	0.9152	0.9135	0.9119
56	0.9103	0.9088	0.9072	0.9056	0.9041	0.9025	0.9010	0.8994	0.8979	0.8964
57	0.8949	0.8934	0.8919	0.8904	0.8889	0.8874	0.8859	0.8845	0.8830	0.8816
58	0.8802	0.8787	0.8773	0.8759	0.8745	0.8731	0.8717	0.8703	0.8689	0.8675
59	0.8662	0.8648	0.8635	0.8621	0.8608	0.8594	0.8581	0.8568	0.8555	0.8542
60	0.8529	0.8516	0.8503	0.8490	0.8477	0.8465	0.8452	0.8439	0.8427	0.8415
61	0.8402	0.8390	0.8378	0.8365	0.8353	0.8341	0.8329	0.8317	0.8305	0.8293
62	0.8281	0.8270	0.8258	0.8246	0.8235	0.8223	0.8212	0.8200	0.8189	0.8178
63	0.8166	0.8155	0.8144	0.8133	0.8122	0.8111	0.8100	0.8089	0.8078	0.8067
64	0.8057	0.8046	0.8035	0.8025	0.8014	0.8004	0.7993	0.7983	0.7973	0.7962
65	0.7952	0.7942	0.7932	0.7922	0.7911	0.7901	0.7891	0.7881	0.7872	0.7862
66	0.785	0.7842	0.7832	0.7823	0.7813	0.7804	0.7794	0.7785	0.7775	0.7766
67	0.7756	0.7747	0.7738	0.7729	0.7719	0.7710	0.7701	0.7692	0.7683	0.7674
68	0.7665	0.7656	0.7647	0.7638	0.7630	0.7621	0.7612	0.7603	0.7595	0.7586
69	0.7578	0.7569	0.7561	0.7552	0.7544	0.7535	0.7527	0.7519	0.7510	0.7502
70	0.7494	0.7486	0.7478	0.7469	0.7461	0.7453	0.7445	0.7437	0.7430	0.7422
71	0.7414	0.7406	0.7398	0.7390	0.7383	0.7375	0.7367	0.7360	0.7352	0.7345
72	0.7337	0.7330	0.7322	0.7315	0.7307	0.7300	0.7293	0.7285	0.7278	0.7271
73	0.7264	0.7256	0.7249	0.7242	0.7235	0.7228	0.7221	0.7214	0.7207	0.7200
74	0.7193	0.7186	0.7179	0.7173	0.7166	0.7159	0.7152	0.7146	0.7139	0.7132
75	0.7126	0.7119	0.7112	0.7106	0.7099	0.7093	0.7086	0.7080	0.7074	0.7067
76	0.7061	0.7055	0.7048	0.7042	0.7036	0.7029	0.7023	0.7017	0.7011	0.7005
77	0.6999	0.6993	0.6987	0.6981	0.6975	0.6969	0.6963	0.6957	0.695	0.6945
78	0.6939	0.6933	0.6927	0.6922	0.6916	0.6910	0.6905	0.6899	0.6893	0.6888
79	0.6882	0.6876	0.6871	0.6865	0.6860	0.6854	0.6849	0.6843	0.6838	0.6832
80	0.6827	0.6822	0.6816	0.6811	0.6806	0.6800	0.6795	0.6790	0.6785	0.6779
81	0.6774	0.6769	0.6764	0.6759	0.6754	0.6749	0.6744	0.6739	0.6734	0.6729
82	0.6724	0.6719	0.6714	0.6709	0.6704	0.6699	0.6694	0.6689	0.6685	0.6680



### WILKES FORMULA FOR MEN *continued*

BW	0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
83	0.6675	0.6670	0.6665	0.6661	0.6656	0.6651	0.6647	0.6642	0.6637	0.6633
84	0.6628	0.6624	0.6619	0.6615	0.6610	0.6606	0.6601	0.6597	0.6592	0.6588
85	0.6583	0.6579	0.6575	0.6570	0.6566	0.6562	0.6557	0.6553	0.6549	0.6545
86	0.6540	0.6536	0.6532	0.6528	0.6523	0.6519	0.6515	0.6511	0.6507	0.6503
87	0.6499	0.6495	0.6491	0.6487	0.6483	0.6479	0.6475	0.6471	0.6467	0.6463
88	0.6459	0.6455	0.6451	0.6447	0.6444	0.6440	0.6436	0.6432	0.6428	0.6424
89	0.6421	0.6417	0.6413	0.6410	0.6406	0.6402	0.6398	0.6395	0.6391	0.6388
90	0.6384	0.6380	0.6377	0.6373	0.6370	0.6366	0.6363	0.6359	0.6356	0.6352
91	0.6349	0.6345	0.6342	0.6338	0.6335	0.6331	0.6328	0.6325	0.6321	0.6318
92	0.6315	0.6311	0.6308	0.6305	0.6301	0.6298	0.6295	0.6292	0.6288	0.6285
94	0.6250	0.6247	0.6244	0.6241	0.6238	0.6235	0.6232	0.6229	0.6226	0.6223
93	0.6282	0.6279	0.6276	0.6272	0.6269	0.6266	0.6263	0.6260	0.6257	0.6254
95	0.6220	0.6217	0.6214	0.6211	0.6209	0.6206	0.6203	0.6200	0.6197	0.6194
96	0.6191	0.6188	0.6186	0.6183	0.6180	0.6177	0.6174	0.6172	0.6169	0.6166
97	0.6163	0.6161	0.6158	0.6155	0.6152	0.6150	0.6147	0.6144	0.6142	0.6139
98	0.6136	0.6134	0.6131	0.6129	0.6126	0.6123	0.6121	0.6118	0.6116	0.6113
99	0.6111	0.6108	0.6106	0.6103	0.6101	0.6098	0.6096	0.6093	0.6091	0.6088
100	0.6086	0.6083	0.6081	0.6079	0.6076	0.6074	0.6071	0.6069	0.6067	0.6064
101	0.6062	0.6060	0.6057	0.6055	0.6053	0.6050	0.6048	0.6046	0.6044	0.6041
102	0.6039	0.6037	0.6035	0.6032	0.6030	0.6028	0.6026	0.6024	0.6021	0.6019
103	0.6017	0.6015	0.6013	0.6011	0.6009	0.6006	0.6004	0.6002	0.6000	0.5998
104	0.5996	0.5994	0.5992	0.5990	0.5988	0.5986	0.5984	0.5982	0.5980	0.5978
105	0.5976	0.5974	0.5972	0.5970	0.5968	0.5966	0.5964	0.5962	0.5960	0.5958
106	0.5956	0.5954	0.5952	0.5950	0.5948	0.5946	0.5945	0.5943	0.5941	0.5939
107	0.5937	0.5935	0.5933	0.5932	0.5930	0.5928	0.5926	0.5924	0.5923	0.5921
108	0.5919	0.5917	0.5916	0.5914	0.5912	0.5910	0.5909	0.5907	0.5905	0.5903
109	0.5902	0.5900	0.5898	0.5897	0.5895	0.5893	0.5892	0.5890	0.5888	0.5887
110	0.5885	0.5883	0.5882	0.5880	0.5878	0.5877	0.5875	0.5874	0.5872	0.5870
111	0.5869	0.5867	0.5866	0.5864	0.5863	0.5861	0.5860	0.5858	0.5856	0.5855
112	0.5853	0.5852	0.5850	0.5849	0.5847	0.5846	0.5844	0.5843	0.5841	0.5840
113	0.5839	0.5837	0.5836	0.5834	0.5833	0.5831	0.5830	0.5828	0.5827	0.5826
114	0.5824	0.5823	0.5821	0.5820	0.5819	0.5817	0.5816	0.5815	0.5813	0.5812
115	0.5811	0.5809	0.5808	0.5806	0.5805	0.5804	0.5803	0.5801	0.5800	0.5799
116	0.5797	0.5796	0.5795	0.5793	0.5792	0.5791	0.5790	0.5788	0.5787	0.5786
117	0.5785	0.5783	0.5782	0.5781	0.5780	0.5778	0.5777	0.5776	0.5775	0.5774
118	0.5772	0.5771	0.5770	0.5769	0.5768	0.5766	0.5765	0.5764	0.5763	0.5762
119	0.5761	0.5759	0.5758	0.5757	0.5756	0.5755	0.5754	0.5753	0.5751	0.5750
120	0.5749	0.5748	0.5747	0.5746	0.5745	0.5744	0.5743	0.5742	0.5740	0.5739
121	0.5738	0.5737	0.5736	0.5735	0.5734	0.5733	0.5732	0.5731	0.5730	0.5729
122	0.5728	0.5727	0.5726	0.5725	0.5724	0.5723	0.5722	0.5721	0.5720	0.5719
123	0.5718	0.5717	0.5716	0.5715	0.5714	0.5713	0.5712	0.5711	0.5710	0.5709
124	0.5708	0.5707	0.5706	0.5705	0.5704	0.5703	0.5702	0.5701	0.5700	0.5699
125	0.5698	0.5698	0.5697	0.5696	0.5695	0.5694	0.5693	0.5692	0.5691	0.5690





### WILKES FORMULA FOR MEN *continued*

BW	0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
126	0.5689	0.5688	0.5688	0.5687	0.5686	0.5685	0.5684	0.5683	0.5682	0.5681
127	0.5681	0.5680	0.5679	0.5678	0.5677	0.5676	0.5675	0.5675	0.5674	0.5673
128	0.5672	0.5671	0.5670	0.5670	0.5669	0.5668	0.5667	0.5666	0.5665	0.5665
129	0.5664	0.5663	0.5662	0.5661	0.5661	0.5660	0.5659	0.5658	0.5658	0.5657
130	0.5656	0.5655	0.5654	0.5654	0.5653	0.5652	0.5651	0.5651	0.5650	0.5649
131	0.5648	0.5647	0.5647	0.5646	0.5645	0.5644	0.5644	0.5643	0.5642	0.5642
132	0.5641	0.5640	0.5639	0.5639	0.5638	0.5637	0.5636	0.5636	0.5635	0.5634
133	0.5634	0.5633	0.5632	0.5631	0.5631	0.5630	0.5629	0.5629	0.5628	0.5627
134	0.5627	0.5626	0.5625	0.5624	0.5624	0.5623	0.5622	0.5622	0.5621	0.5620
135	0.5620	0.5619	0.5618	0.5618	0.5617	0.5616	0.5616	0.5615	0.5614	0.5614
136	0.5613	0.5612	0.5612	0.5611	0.5610	0.5610	0.5609	0.5609	0.5608	0.5607
137	0.5607	0.5606	0.5605	0.5605	0.5604	0.5603	0.5603	0.5602	0.5602	0.5601
138	0.5600	0.5600	0.5599	0.5598	0.5598	0.5597	0.5597	0.5596	0.5595	0.5595
139	0.5594	0.5593	0.5593	0.5592	0.5592	0.5591	0.5590	0.5590	0.5589	0.5589
140	0.5588	0.5587	0.5587	0.5586	0.5586	0.5585	0.5584	0.5584	0.5583	0.5583
141	0.5582	0.5582	0.5581	0.5580	0.5580	0.5579	0.5579	0.5578	0.5578	0.5577
142	0.5576	0.5576	0.5575	0.5575	0.5574	0.5573	0.5573	0.5572	0.5572	0.5571
143	0.5571	0.5570	0.5570	0.5569	0.5568	0.5568	0.5567	0.5567	0.5566	0.5566
144	0.5565	0.5564	0.5564	0.5563	0.5563	0.5562	0.5562	0.5561	0.5561	0.5560
145	0.5560	0.5559	0.5558	0.5558	0.5557	0.5557	0.5556	0.5556	0.5555	0.5555
146	0.5554	0.5554	0.5553	0.5552	0.5552	0.5551	0.5551	0.5550	0.5550	0.5549
147	0.5549	0.5548	0.5548	0.5547	0.5547	0.5546	0.5546	0.5545	0.5544	0.5544
148	0.5543	0.5543	0.5542	0.5542	0.5541	0.5541	0.5540	0.5540	0.5539	0.5539
149	0.5538	0.5538	0.5537	0.5537	0.5536	0.5536	0.5535	0.5535	0.5534	0.5533
150	0.5533	0.5532	0.5532	0.5531	0.5531	0.5530	0.5530	0.5529	0.5529	0.5528
151	0.5528	0.5527	0.5527	0.5526	0.5526	0.5525	0.5525	0.5524	0.5524	0.5523
152	0.5523	0.5522	0.5522	0.5521	0.5521	0.5520	0.5520	0.5519	0.5519	0.5518
153	0.5518	0.5517	0.5516	0.5516	0.5515	0.5515	0.5514	0.5514	0.5513	0.5513
154	0.5512	0.5512	0.5511	0.5511	0.5510	0.5510	0.5509	0.5509	0.5508	0.5508
155	0.5507	0.5507	0.5506	0.5506	0.5505	0.5505	0.5504	0.5504	0.5503	0.5503
156	0.5502	0.5502	0.5501	0.5501	0.5500	0.5500	0.5499	0.5499	0.5498	0.5498
157	0.5497	0.5497	0.5496	0.5496	0.5495	0.5495	0.5494	0.5494	0.5493	0.5493
158	0.5492	0.5492	0.5491	0.5491	0.5490	0.5490	0.5489	0.5489	0.5488	0.5488
159	0.5487	0.5487	0.5486	0.5486	0.5485	0.5485	0.5484	0.5484	0.5483	0.5483
160	0.5482	0.5482	0.5481	0.5481	0.5480	0.5480	0.5479	0.5479	0.5478	0.5478
161	0.5477	0.5477	0.5476	0.5476	0.5475	0.5475	0.5474	0.5474	0.5473	0.5472
162	0.5472	0.5471	0.5471	0.5470	0.5470	0.5469	0.5469	0.5468	0.5468	0.5467
163	0.5467	0.5466	0.5466	0.5465	0.5465	0.5464	0.5464	0.5463	0.5463	0.5462
164	0.5462	0.5461	0.5461	0.5460	0.5460	0.5459	0.5459	0.5458	0.5458	0.5457
165	0.5457	0.5456	0.5456	0.5455	0.5455	0.5454	0.5454	0.5453	0.5453	0.5452
166	0.5452	0.5451	0.5451	0.5450	0.5450	0.5449	0.5449	0.5448	0.5448	0.5447
167	0.5447	0.5446	0.5446	0.5445	0.5445	0.5444	0.5444	0.5443	0.5443	0.5442
168	0.5442	0.5441	0.5441	0.5440	0.5440	0.5439	0.5439	0.5438	0.5438	0.5437
169	0.5436	0.5436	0.5435	0.5435	0.5434	0.5434	0.5433	0.5433	0.5432	0.5432



### WILKES FORMULA FOR MEN *continued*

BW	0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
170	0.5431	0.5431	0.5430	0.5430	0.5429	0.5429	0.5428	0.5428	0.5427	0.5427
171	0.5426	0.5426	0.5425	0.5425	0.5424	0.5424	0.5423	0.5423	0.5422	0.5422
172	0.5421	0.5421	0.5420	0.5420	0.5419	0.5419	0.5418	0.5418	0.5417	0.5417
173	0.5416	0.5416	0.5415	0.5415	0.5414	0.5414	0.5413	0.5413	0.5412	0.5412
174	0.5411	0.5411	0.5410	0.5410	0.5409	0.5409	0.5408	0.5408	0.5407	0.5407
175	0.5406	0.5406	0.5405	0.5405	0.5404	0.5404	0.5403	0.5403	0.5402	0.5402
176	0.5401	0.5401	0.5400	0.5400	0.5399	0.5399	0.5398	0.5398	0.5397	0.5397
177	0.5396	0.5396	0.5395	0.5395	0.5394	0.5394	0.5393	0.5393	0.5392	0.5392
178	0.5391	0.5391	0.5390	0.5390	0.5389	0.5389	0.5388	0.5388	0.5387	0.5387
179	0.5387	0.5386	0.5386	0.5385	0.5385	0.5384	0.5384	0.5383	0.5383	0.5382
180	0.5382	0.5381	0.5381	0.5380	0.5380	0.5379	0.5379	0.5378	0.5378	0.5377
181	0.5377	0.5377	0.5376	0.5376	0.5375	0.5375	0.5374	0.5374	0.5373	0.5373
182	0.5372	0.5372	0.5371	0.5371	0.5371	0.5370	0.5370	0.5369	0.5369	0.5368
183	0.5368	0.5367	0.5367	0.5366	0.5366	0.5366	0.5365	0.5365	0.5364	0.5364
184	0.5363	0.5363	0.5362	0.5362	0.5362	0.5361	0.5361	0.5360	0.5360	0.5359
185	0.5359	0.5359	0.5358	0.5358	0.5357	0.5357	0.5356	0.5356	0.5356	0.5355
186	0.5355	0.5354	0.5354	0.5353	0.5353	0.5353	0.5352	0.5352	0.5351	0.5351
187	0.5351	0.5350	0.5350	0.5349	0.5349	0.5349	0.5348	0.5348	0.5347	0.5347
188	0.5347	0.5346	0.5346	0.5345	0.5345	0.5345	0.5344	0.5344	0.5344	0.5343
189	0.5343	0.5342	0.5342	0.5342	0.5341	0.5341	0.5341	0.5340	0.5340	0.5340
190	0.5339	0.5339	0.5338	0.5338	0.5338	0.5337	0.5337	0.5337	0.5336	0.5336
191	0.5336	0.5335	0.5335	0.5335	0.5334	0.5334	0.5334	0.5333	0.5333	0.5333
192	0.5332	0.5332	0.5332	0.5332	0.5331	0.5331	0.5331	0.5330	0.5330	0.5330
193	0.5329	0.5329	0.5329	0.5329	0.5328	0.5328	0.5328	0.5327	0.5327	0.5327
194	0.5327	0.5326	0.5326	0.5326	0.5326	0.5325	0.5325	0.5325	0.5325	0.5324
195	0.5324	0.5324	0.5324	0.5323	0.5323	0.5323	0.5323	0.5322	0.5322	0.5322
196	0.5322	0.5322	0.5321	0.5321	0.5321	0.5321	0.5321	0.5320	0.5320	0.5320
197	0.5320	0.5320	0.5319	0.5319	0.5319	0.5319	0.5319	0.5319	0.5318	0.5318
198	0.5318	0.5318	0.5318	0.5318	0.5318	0.5317	0.5317	0.5317	0.5317	0.5317
199	0.5317	0.5317	0.5317	0.5317	0.5316	0.5316	0.5316	0.5316	0.5316	0.5316
200	0.5316	0.5316	0.5316	0.5316	0.5316	0.5315	0.5315	0.5315	0.5315	0.5315
201	0.5315	0.5315	0.5315	0.5315	0.5315	0.5315	0.5315	0.5315	0.5315	0.5315
202	0.5315	0.5315	0.5315	0.5315	0.5315	0.5315	0.5315	0.5315	0.5315	0.5315
203	0.5315	0.5315	0.5315	0.5315	0.5315	0.5315	0.5316	0.5316	0.5316	0.5316
204	0.5316	0.5316	0.5316	0.5316	0.5316	0.5316	0.5316	0.5317	0.5317	0.5317
205	0.5317	0.5317	0.5317	0.5317	0.5318	0.5318	0.5318	0.5318	0.5318	0.5318



## WILKES FORMULA FOR WOMEN

BW	0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
40	1.4936	1.4915	1.4894	1.4872	1.4851	1.4830	1.4809	1.4788	1.4766	1.4745
41	1.4724	1.4702	1.4681	1.4660	1.4638	1.4617	1.4595	1.4574	1.4552	1.4531
42	1.4510	1.4488	1.4467	1.4445	1.4424	1.4402	1.4381	1.4359	1.4338	1.4316
43	1.4295	1.4273	1.4252	1.4231	1.4209	1.4188	1.4166	1.4145	1.4123	1.4102
44	1.4081	1.4059	1.4038	1.4017	1.3995	1.3974	1.3953	1.3932	1.3910	1.3889
45	1.3868	1.3847	1.3825	1.3804	1.3783	1.3762	1.3741	1.3720	1.3699	1.3678
46	1.3657	1.3636	1.3615	1.3594	1.3573	1.3553	1.3532	1.3511	1.3490	1.3470
47	1.3449	1.3428	1.3408	1.3387	1.3367	1.3346	1.3326	1.3305	1.3285	1.3265
48	1.3244	1.3224	1.3204	1.3183	1.3163	1.3143	1.3123	1.3103	1.3083	1.3063
49	1.3043	1.3023	1.3004	1.2984	1.2964	1.2944	1.2925	1.2905	1.2885	1.2866
50	1.2846	1.2827	1.2808	1.2788	1.2769	1.2750	1.2730	1.2711	1.2692	1.2673
51	1.2654	1.2635	1.2616	1.2597	1.2578	1.2560	1.2541	1.2522	1.2504	1.2485
52	1.2466	1.2448	1.2429	1.2411	1.2393	1.2374	1.2356	1.2338	1.2320	1.2302
53	1.2284	1.2266	1.2248	1.2230	1.2212	1.2194	1.2176	1.2159	1.2141	1.2123
54	1.2106	1.2088	1.2071	1.2054	1.2036	1.2019	1.2002	1.1985	1.1967	1.1950
55	1.1933	1.1916	1.1900	1.1883	1.1866	1.1849	1.1832	1.1816	1.1799	1.1783
56	1.1766	1.1750	1.1733	1.1717	1.1701	1.1684	1.1668	1.1652	1.1636	1.1620
57	1.1604	1.1588	1.1572	1.1556	1.1541	1.1525	1.1509	1.1494	1.1478	1.1463
58	1.1447	1.1432	1.1416	1.1401	1.1386	1.1371	1.1355	1.1340	1.1325	1.1310
59	1.1295	1.1281	1.1266	1.1251	1.1236	1.1221	1.1207	1.1192	1.1178	1.1163
60	1.1149	1.1134	1.1120	1.1106	1.1092	1.1078	1.1063	1.1049	1.1035	1.1021
61	1.1007	1.0994	1.0980	1.0966	1.0952	1.0939	1.0925	1.0911	1.0898	1.0884
62	1.0871	1.0858	1.0844	1.0831	1.0818	1.0805	1.0792	1.0779	1.0765	1.0753
63	1.0740	1.0727	1.0714	1.0701	1.0688	1.0676	1.0663	1.0650	1.0638	1.0625
64	1.0613	1.0601	1.0588	1.0576	1.0564	1.0551	1.0539	1.0527	1.0515	1.0503
65	1.0491	1.0479	1.0467	1.0455	1.0444	1.0432	1.0420	1.0408	1.0397	1.0385
66	1.0374	1.0362	1.0351	1.0339	1.0328	1.0317	1.0306	1.0294	1.0283	1.0272
67	1.0261	1.0250	1.0239	1.0228	1.0217	1.0206	1.0195	1.0185	1.0174	1.0163
68	1.0153	1.0142	1.0131	1.0121	1.0110	1.0100	1.0090	1.0079	1.0069	1.0059
69	1.0048	1.0038	1.0028	1.0018	1.0008	0.9998	0.9988	0.9978	0.9968	0.9958
70	0.9948	0.9939	0.9929	0.9919	0.9910	0.9900	0.9890	0.9881	0.9871	0.9862
71	0.9852	0.9843	0.9834	0.9824	0.9815	0.9806	0.9797	0.9788	0.9779	0.9769
72	0.9760	0.9751	0.9742	0.9734	0.9725	0.9716	0.9707	0.9698	0.9689	0.9681
73	0.9672	0.9663	0.9655	0.9646	0.9638	0.9629	0.9621	0.9613	0.9604	0.9596
74	0.9587	0.9579	0.9571	0.9563	0.9555	0.9547	0.9538	0.9530	0.9522	0.9514
75	0.9506	0.9498	0.9491	0.9483	0.9475	0.9467	0.9459	0.9452	0.9444	0.9436
76	0.9429	0.9421	0.9414	0.9406	0.9399	0.9391	0.9384	0.9376	0.9369	0.9362
77	0.9354	0.9347	0.9340	0.9333	0.9326	0.9318	0.9311	0.9304	0.9297	0.9290
78	0.9283	0.9276	0.9269	0.9263	0.9256	0.9249	0.9242	0.9235	0.9229	0.9222
79	0.9215	0.9209	0.9202	0.9195	0.9189	0.9182	0.9176	0.9169	0.9163	0.9156
80	0.9150	0.9144	0.9137	0.9131	0.9125	0.9119	0.9112	0.9106	0.9100	0.9094
81	0.9088	0.9082	0.9076	0.9070	0.9064	0.9058	0.9052	0.9046	0.9040	0.9034
82	0.9028	0.9023	0.9017	0.9011	0.9005	0.9000	0.8994	0.8988	0.8983	0.8977





### WILKES FORMULA FOR WOMEN *continued*

BW	0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
83	0.8972	0.8966	0.8961	0.8955	0.8950	0.8944	0.8939	0.8933	0.8928	0.8923
84	0.8917	0.8912	0.8907	0.8902	0.8896	0.8891	0.8886	0.8881	0.8876	0.8871
85	0.8866	0.8861	0.8856	0.8851	0.8846	0.8841	0.8836	0.8831	0.8826	0.8821
86	0.8816	0.8811	0.8807	0.8802	0.8797	0.8792	0.8788	0.8783	0.8778	0.8774
87	0.8769	0.8765	0.8760	0.8755	0.8751	0.8746	0.8742	0.8737	0.8733	0.8729
88	0.8724	0.8720	0.8716	0.8711	0.8707	0.8703	0.8698	0.8694	0.8690	0.8686
89	0.8681	0.8677	0.8673	0.8669	0.8665	0.8661	0.8657	0.8653	0.8649	0.8645
90	0.8641	0.8637	0.8633	0.8629	0.8625	0.8621	0.8617	0.8613	0.8609	0.8606
91	0.8602	0.8598	0.8594	0.8590	0.8587	0.8583	0.8579	0.8576	0.8572	0.8568
92	0.8565	0.8561	0.8558	0.8554	0.8550	0.8547	0.8543	0.8540	0.8536	0.8533
93	0.8530	0.8526	0.8523	0.8519	0.8516	0.8513	0.8509	0.8506	0.8503	0.8499
94	0.8496	0.8493	0.8489	0.8486	0.8483	0.8480	0.8477	0.8473	0.8470	0.8467
95	0.8464	0.8461	0.8458	0.8455	0.8452	0.8449	0.8446	0.8443	0.8440	0.8437
96	0.8434	0.8431	0.8428	0.8425	0.8422	0.8419	0.8416	0.8413	0.8410	0.8407
97	0.8405	0.8402	0.8399	0.8396	0.8393	0.8391	0.8388	0.8385	0.8382	0.8380
98	0.8377	0.8374	0.8372	0.8369	0.8366	0.8364	0.8361	0.8359	0.8356	0.8353
99	0.8351	0.8348	0.8346	0.8343	0.8341	0.8338	0.8336	0.8333	0.8331	0.8328
100	0.8326	0.8323	0.8321	0.8319	0.8316	0.8314	0.8311	0.8309	0.8307	0.8304
101	0.8302	0.8300	0.8297	0.8295	0.8293	0.8291	0.8288	0.8286	0.8284	0.8282
102	0.8279	0.8277	0.8275	0.8273	0.8271	0.8268	0.8266	0.8264	0.8262	0.8260
103	0.8258	0.8256	0.8253	0.8251	0.8249	0.8247	0.8245	0.8243	0.8241	0.8239
104	0.8237	0.8235	0.8233	0.8231	0.8229	0.8227	0.8225	0.8223	0.8221	0.8219
105	0.8217	0.8215	0.8214	0.8212	0.8210	0.8208	0.8206	0.8204	0.8202	0.8200
106	0.8198	0.8197	0.8195	0.8193	0.8191	0.8189	0.8188	0.8186	0.8184	0.8182
107	0.8180	0.8179	0.8177	0.8175	0.8173	0.8172	0.8170	0.8168	0.8167	0.8165
108	0.8163	0.8161	0.8160	0.8158	0.8156	0.8155	0.8153	0.8152	0.8150	0.8148
109	0.8147	0.8145	0.8143	0.8142	0.8140	0.8139	0.8137	0.8135	0.8134	0.8132
110	0.8131	0.8129	0.8128	0.8126	0.8124	0.8123	0.8121	0.8120	0.8118	0.8117
111	0.8115	0.8114	0.8112	0.8111	0.8109	0.8108	0.8106	0.8105	0.8103	0.8102
112	0.8101	0.8099	0.8098	0.8096	0.8095	0.8093	0.8092	0.8090	0.8089	0.8088
113	0.8086	0.8085	0.8083	0.8082	0.8081	0.8079	0.8078	0.8077	0.8075	0.8074
114	0.8072	0.8071	0.8070	0.8068	0.8067	0.8066	0.8064	0.8063	0.8062	0.8060
115	0.8059	0.8058	0.8056	0.8055	0.8054	0.8052	0.8051	0.8050	0.8049	0.8047
116	0.8046	0.8045	0.8043	0.8042	0.8041	0.8040	0.8038	0.8037	0.8036	0.8034
117	0.8033	0.8032	0.8031	0.8029	0.8028	0.8027	0.8026	0.8024	0.8023	0.8022
118	0.8021	0.8020	0.8018	0.8017	0.8016	0.8015	0.8013	0.8012	0.8011	0.8010
119	0.8009	0.8007	0.8006	0.8005	0.8004	0.8003	0.8001	0.8000	0.7999	0.7998
120	0.7997	0.7995	0.7994	0.7993	0.7992	0.7991	0.7989	0.7988	0.7987	0.7986
121	0.7985	0.7984	0.7982	0.7981	0.7980	0.7979	0.7978	0.7977	0.7975	0.7974
122	0.7973	0.7972	0.7971	0.7970	0.7969	0.7967	0.7966	0.7965	0.7964	0.7963
123	0.7962	0.7960	0.7959	0.7958	0.7957	0.7956	0.7955	0.7954	0.7953	0.7951
124	0.7950	0.7949	0.7948	0.7947	0.7946	0.7945	0.7943	0.7942	0.7941	0.7940
125	0.7939	0.7938	0.7937	0.7936	0.7934	0.7933	0.7932	0.7931	0.7930	0.7929



### WILKES FORMULA FOR WOMEN *continued*

BW	0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
126	0.7928	0.7927	0.7926	0.7924	0.7923	0.7922	0.7921	0.7920	0.7919	0.7918
127	0.7917	0.7915	0.7914	0.7913	0.7912	0.7911	0.7910	0.7909	0.7908	0.7907
128	0.7905	0.7904	0.7903	0.7902	0.7901	0.7900	0.7899	0.7898	0.7897	0.7895
129	0.7894	0.7893	0.7892	0.7891	0.7890	0.7889	0.7888	0.7887	0.7886	0.7884
130	0.7883	0.7882	0.7881	0.7880	0.7879	0.7878	0.7877	0.7876	0.7875	0.7873
131	0.7872	0.7871	0.7870	0.7869	0.7868	0.7867	0.7866	0.7865	0.7864	0.7862
132	0.7861	0.7860	0.7859	0.7858	0.7857	0.7856	0.7855	0.7854	0.7853	0.7852
133	0.7850	0.7849	0.7848	0.7847	0.7846	0.7845	0.7844	0.7843	0.7842	0.7841
134	0.7840	0.7838	0.7837	0.7836	0.7835	0.7834	0.7833	0.7832	0.7831	0.7830
135	0.7829	0.7828	0.7827	0.7825	0.7824	0.7823	0.7822	0.7821	0.7820	0.7819
136	0.7818	0.7817	0.7816	0.7815	0.7814	0.7813	0.7812	0.7811	0.7809	0.7808
137	0.7807	0.7806	0.7805	0.7804	0.7803	0.7802	0.7801	0.7800	0.7799	0.7798
138	0.7797	0.7796	0.7795	0.7794	0.7793	0.7792	0.7791	0.7790	0.7789	0.7787
139	0.7786	0.7785	0.7784	0.7783	0.7782	0.7781	0.7780	0.7779	0.7778	0.7777
140	0.7776	0.7775	0.7774	0.7773	0.7772	0.7771	0.7770	0.7769	0.7768	0.7767
141	0.7766	0.7765	0.7764	0.7763	0.7762	0.7761	0.7760	0.7759	0.7759	0.7758
142	0.7757	0.7756	0.7755	0.7754	0.7753	0.7752	0.7751	0.7750	0.7749	0.7748
143	0.7747	0.7746	0.7745	0.7744	0.7744	0.7743	0.7742	0.7741	0.7740	0.7739
144	0.7738	0.7737	0.7736	0.7736	0.7735	0.7734	0.7733	0.7732	0.7731	0.7730
145	0.7730	0.7729	0.7728	0.7727	0.7726	0.7725	0.7725	0.7724	0.7723	0.7722
146	0.7721	0.7721	0.7720	0.7719	0.7718	0.7717	0.7717	0.7716	0.7715	0.7714
147	0.7714	0.7713	0.7712	0.7712	0.7711	0.7710	0.7709	0.7709	0.7708	0.7707
148	0.7707	0.7706	0.7705	0.7705	0.7704	0.7703	0.7703	0.7702	0.7702	0.7701
149	0.7700	0.7700	0.7699	0.7699	0.7698	0.7698	0.7697	0.7696	0.7696	0.7695
150	0.7695	0.7694	0.7694	0.7693	0.7693	0.7692	0.7692	0.7691	0.7691	0.7691



## KILO CONVERSION TABLE

To convert kilos to pounds, multiply kilos by 2.2046. Rules state that poundages shall be rounded off by reducing to the nearest quarter, i.e., 107.5 kilos multiplied by 2.2046 equals 236.99450. The poundage then becomes 236-3/4 rather than 237.

KILOS	POUNDS	KILOS	POUNDS	KILOS	POUNDS	KILOS	POUNDS
27.5	60.5	145	319.5	260	573	377.5	832
30	66	147.5	325	262.5	578.5	380	837.5
32.5	71.5	150	330.5	265	584	382.5	843-1/4
35	77	152.5	336	267.5	598.5	385	848-3/4
37.5	82.5	155	341.5	270	595	387.5	854-1/4
40	88	157.5	347	272.5	600-3/4	390	859-3/4
42.5	93.5	160	352.5	275	606-1/4	392.5	865-1/4
45	99	162.5	358	277.5	611-3/4	395	870-3/4
47.5	104.5	165	363-3/4	280	617-1/4	397.5	876-1/4
50	110	167.5	369-1/4	282.5	622-3/4	400	881-3/4
52.5	115.5	170	374-3/4	285	628-1/4	402.5	887-1/4
55	121-1/4	172.5	380-1/4	287.5	633-3/4	405	892-3/4
57.5	126-3/4	175	385-3/4	290	639-1/4	407.5	898-1/4
60	132-1/4	177.5	391-1/4	292.5	644-3/4	410	903-3/4
62.5	137-3/4	180	396-3/4	295	650-1/4	412.5	909-1/4
65	143-1/4	182.5	402-1/4	297.5	655-3/4	415	914-3/4
67.5	148-3/4	185	407-3/4	300	661-1/4	417.5	920-1/4
70	154-1/4	187.5	413-1/4	302.5	666-3/4	420	925-3/4
72.5	159-3/4	190	418-3/4	305	672-1/4	422.5	931-1/4
75	165-1/4	192.5	424-1/4	307.5	677-3/4	425	936-3/4
77.5	170-3/4	195	429-3/4	310	683-1/4	427.5	942-1/4
80	176-3/4	197.5	435-1/4	312.5	688-3/4	430	947-3/4
82.5	181-3/4	200	440-3/4	315	694-1/4	432.5	953-1/4
85	187-1/4	202.5	446-1/4	317.5	699-3/4	435	959
87.5	192-3/4	205	451-3/4	320	705-1/4	437.5	964.5
90	198-1/4	207.5	457-1/4	322.5	710-3/4	440	970
92.5	203-3/4	210	462-3/4	325	716-1/4	442.5	975.5
95	209-1/4	212.5	468-1/4	327.5	722	445	981
97.5	214-3/4	215	473-3/4	330	727.5	447.5	986.5
100	220-1/4	217.5	479.5	332.5	733	450	992
102.5	225-3/4	220	485	335	738.5	452.5	997.5
105	231-1/4	222.5	490.5	337.5	744	455	1003
107.5	236-3/4	225	496	340	749.5	457.5	1008.5
110	242.5	227.5	501.5	342.5	755	460	1014
115	253.5	230	507	345	760.5	462.5	1019.5
117.5	259	232.5	512.5	347.5	766	465	1025
120	264.5	235	518.5	350	771.5	467.5	1030.5
122.5	270	237.5	523.5	352.5	777	470	1036
125	275.5	240	529	355	782.5	472.5	1041.5
127.5	281	242.5	534.5	357.5	788	475	1047
130	286.5	245	540	360	793.5	477.5	1052.5
132.5	292	247.5	545.5	362.5	799	480	1058
135	297.5	250	551	367.5	810	482.5	1063.5
137.5	303	252.5	556.5	370	815.5	485	1069
140	308.5	255	562	372.5	821	487.5	1074.5
142.5	314	257.5	567.5	375	826.5	490	1080-1/4





KILOS	POUNDS	KILOS	POUNDS	KILOS	POUNDS	KILOS	POUNDS
492.5	1085-3/4	622.5	1372-1/4	750	1653-1/4	877.5	1934-1/2
495	1091-1/4	625	1377-3/4	752.5	1658-3/4	880	1940
497.5	1096-3/4	627.5	1383-1/4	755	1664-1/4	882.5	1945-1/2
500	1102-1/4	630	1388-3/4	757.5	1669-3/4	885	1951
502.5	1107-3/4	632.5	1394-1/4	760	1675-1/4	887.5	1956-1/2
505	1113-1/4	635	1399-3/4	762.5	1681	890	1962
510	1124-1/4	637.5	1405-1/4	765	1686-1/2	892.5	1967-1/2
512.5	1129-3/4	640	1410-3/4	767.5	1692	895	1973
515	1135-1/4	642.5	1416-1/4	770	1697-1/2	897.5	1978-1/2
517.5	1140-3/4	645	1421-3/4	772.5	1703	900	1984
520	1146-1/4	647.5	1427-1/4	775	1708-1/2	902.5	1989-1/2
522.5	1151-3/4	650	1432-3/4	777.5	1714	905	1995
525	1157-1/4	652.5	1438-1/2	780	1719-1/2	907.5	2000-1/2
527.5	1162-3/4	655	1444	782.5	1725	910	2006
530	1168-1/4	657.5	1449-1/2	785	1730-1/2	912.5	2011-1/2
532.5	1173-3/4	660	1455	787.5	1736	915	2017
535	1179-1/4	662.5	1460-1/2	790	1741-42	917.5	2022-1/2
537.5	1184-3/4	665	1466	792.5	1747	920	2028
540	1190-1/4	667.5	1471-1/2	795	1752-1/2	922.5	2033-1/2
542.5	1195-1/4	670	1477	797.5	1758	925	2039-1/4
545	1201-1/2	672.5	1482-1/2	800	1763-1/2	927.5	2044-3/4
547.5	1207	675	1488	802.5	1769	930	2050-1/4
550	1212-1/2	677.5	1493-1/2	805	1774-1/2	932.5	2055-3/4
552.5	1218	680	1499	807.5	1780	935	2061-1/4
555	1223-1/2	682.5	1504-1/2	810	1785-1/2	937.5	2066-3/4
557.5	1229	685	1510	815	1791	940	2072-1/4
560	1234-1/2	687.5	1515-1/2	815	1796-1/2	942.5	2077-3/4
562.5	1240	690	1521	817.5	1802-1/4	945	2083-1/4
565	1245-1/2	692.5	1526-1/2	820	1807-3/4	947.5	2088-3/4
570	1256-1/2	695	1532	822.5	1813-1/4	950	2094-1/4
572.5	1262	697.5	1537-1/2	825	1818-3/4	952.5	2099-3/4
575	1267-1/2	700	1543	827.5	1824-1/4	955	2105-1/4
577.5	1273	702.5	1548-1/2	830	1829-3/4	957.5	2110-3/4
580	1278-1/2	705	1554	832.5	1835-1/4	960	2116-1/4
582.5	1284	710	1565-1/4	835	1840-3/4	962.5	2121-3/4
585	1289-1/2	712.5	1570-3/4	837.5	1846-1/4	965	2127-1/4
587.5	1295	715	1576-1/4	840	1851-3/4	967.5	2132-3/4
590	1300-1/2	717.5	1581-3/4	842.5	1857-1/4	970	2138-1/4
592.5	1306	720	1587-1/4	845	1862-3/4	972.5	2143-3/4
595	1311-1/2	722.5	1592-3/4	850	1873-3/4	975	2149-1/4
597.5	1317	725	1598-1/4	852.5	1879-1/4	977.5	2154-3/4
600	1322-3/4	727.5	1603-3/4	855	1884-3/4	980	2160-1/2
602.5	1328-1/4	730	1609-1/4	857.5	1890-1/4	982.5	2166
605	1333-3/4	732.5	1614-3/4	860	1895-3/4	985	2171-1/2
607.5	1339-1/4	735	1620-1/4	862.5	19.1-1/4	990	2182-1/2
610	1344-3/4	737.5	1625-3/4	865	1906-3/4	992.5	2188
612.5	1350-1/4	740	1631-1/4	867.5	1912-1/4	995	2193-1/2
615	1355-3/4	742.5	1636-3/4	870	1918	997.5	2199
617.5	1361-1/4	745	1642-1/4	872.5	1923-1/2	1000	2204-1/2
620	1366-3/4	747.5	1647-3/4	875	1929		