

Resting Energy Expenditure Equation (Simplified Formula) *

MALE $10 + \text{wt (kg)} + 6.25 \times \text{ht (cm)} - 5 \times \text{age (y)} + 5$

FEMALE $10 + \text{wt (kg)} + 6.25 \times \text{ht (cm)} - 5 \times \text{age (y)} - 161$

*Sample Calculations- (Simplified Formula) *:*

How to Apply the Mifflin St. Jeor Equation to Find Resting Energy Expenditure (REE)



Find the REE of a **50-year-old man** who weighs **200 pounds** and is **5'9" tall**

$$\begin{array}{rccccccccc}
 10 \times (200 \text{ lb}/2.2\text{kg}) & + & 6.25 \times (69 \text{ in} \times 2.54 \text{ cm}) & - & 5 \times 50 \text{ yr} & + & 5 \\
 \downarrow & & \downarrow & & \downarrow & & \\
 909 & + & 1095 & - & 250 & + & 5 \\
 & & & & = & & \\
 & & & & & & \mathbf{1,759} \\
 & & & & & & \mathbf{kcal}
 \end{array}$$



Find the REE of a **50-year-old female** who weighs **120 pounds** and is **5'0" tall**

$$\begin{array}{rccccccccc}
 10 \times (120 \text{ lb}/2.2\text{kg}) & + & 6.25 \times (60 \text{ in} \times 2.54 \text{ cm}) & - & 5 \times 50 \text{ yr} & - & 161 \\
 \downarrow & & & & \downarrow & & \\
 545 & + & 952 & - & 250 & - & 161 \\
 & & & & = & & \\
 & & & & & & \mathbf{1,086} \\
 & & & & & & \mathbf{kcal}
 \end{array}$$

* Full formula extends first number in equation (10) to 2 decimal places (9.99). The simplified formula did not result in a significant difference in the original research study.

Reference:

Mifflin MD, St. Jeor ST, Hill LA, Scott BJ, Daugherty SA, Koh YO: A new predictive equation for resting energy expenditure in healthy individuals. *Am J of Clin Nutr* 1990;51:241-247.