

# Answer questions

[Family](#)



Weight conversion: Pounds to kilograms (kg) --- weight in pounds  $\times 0.4536 =$  weight in kg  
 Height conversion: Feet to inches--- 1 foot = 12 inches (5'6" = 66 inches)

Inches to meters (m) = 1 inch = 0.0254 (5'6" = 66 inches = 1.6764 m)

Inches to centimeters (cm) --- inches  $\times 2.54$  (66 inches  $\times 2.54 = 167.64$  cm)

For all questions that involve math, you must show your math work to receive full credit.

1. What is your BMI [weight (kg)  $\div$  Height (m<sup>2</sup>)]? Refer to your textbook and determine your BMI classification. Calculate your BMI (show your work) and indicate your BMI classification in the space below.

$$\text{BMI} = 75 / (1.5752)^2 = 30.2$$

My BMI is 30.2, indicating my weight is in the obese

2. Using the Harris-Benedict Equation provided below, calculate your BMR by using the following formula (note: this formula is gender-specific!).

For Women:  $\text{BMR} = 655 + (4.35 \times \text{weight in pounds}) + (4.7 \times \text{height in inches}) - (4.7 \times \text{age in years})$

For Men:  $\text{BMR} = 66 + (6.23 \times \text{weight in pounds}) + (12.7 \times \text{height in inches}) - (6.8 \times \text{age in years})$

Show your work:

As a woman

$$\text{BMR} = 655 + (4.35 \times 165) + (4.7 \times 62) - (4.7 \times 37)$$

$$\text{BMR} = (655 + 717.75) + 291.4 - 173.9$$

$$\text{BMR} = 1372.75 + 291.4 - 173.9$$

$$\text{BMR} = 1490.25$$

Your BMR is:

3. Next, to calculate your total kcal needs for the day. To do this, multiply your BMR (your answer from the previous question) by an activity factor that you select below and a stress factor (SF) from the chart below. Unless you are recovering from surgery or major injury, assume that your stress factor is one.

Light exercise (1-3 days per week)

$$= \text{BMR} \times 1.375$$

x (SF)

Moderate exercise (3-5 days per week)

$$= \text{BMR} \times 1.55$$

x (SF)

Heavy exercise (6-7 days per week)

$$= \text{BMR} \times 1.725$$

x (SF)

Very heavy exercise (twice per day, extra heavy workouts)

$$= \text{BMR} \times 1.9$$

x (SF)

Show your work:  $1490.25 \times 1.375 = 2049$  per day calories

$$1490.25 \times 1.375 \times 1.2 =$$

Your calculated kcal needs for the day are

4. Then calculate your total kcal needs for the day using the Mifflin-St. Jeor equation. It is also gender specific. Use the activity factor and stress factor charts provided in question #3.

For Men:

$$\text{BMR} = (10 \times \text{weight in kg}) + (6.25 \times \text{height in cm}) - (5 \times \text{Age in years}) + 5 =$$

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For Women:

$$\text{BMR} = (10 \times \text{weight in kg}) + (6.25 \times \text{height in cm}) - (5 \times \text{Age in years}) - 161$$

$$=$$

Then, multiply your calculated BMR from above by the activity factor and stress factor you selected in question #3. This will indicate your kcal needs for the day using the Mifflin-St. Jeor equation. Show your work (remember to use the activity factor).

$$1.375 \times 1388.3 \times 1.2$$

Your caloric needs using Mifflin-St. Jeor:  $1388.3 \times 1.375 \times 1.2 = 2290.2$

5a) Were you surprised by these answers regarding your calculated needs? Why or why not? What do you expect to happen with regard to your caloric needs as your age increases?

I am not surprised at the figures resulting from calculated kcal needs since they are around the recommended needs for my figure which is 2,000kcal. However, I am slightly above the recommended kcal needs because of my size (weight and height) which indicates that I am overweight (obese). This indicates that I need more calories than an average woman.

as my age increases my kcal needs will increase because of the increase in the number of activities; usually needing more calories.

5b) How do the caloric needs compare? Are they similar or different (are they within 50-100 calories of each other?)

The caloric needs calculate by using Mifflin-St. Jeor and Harris-Benedict Equation are different because they have a difference of slightly more than 100 calories (168.71).