

AFTERSCHOOL TRAINING TOOLKIT

Finding Math

Algebra: Olympic Races

Athlete Profiles

Two Olympic skiers competed in races. At the end of the events, the athletes found out their final times. Now they want to know how fast they were going—per hour and per minute. They know approximately how many total calories they burned during each race, but they need your help to figure out how many calories they burned per minute on average.

Choose an Olympic athlete profile. Then use the data given to find formulas for:

- calories burned per minute
- speed per hour
- speed per minute

Male Cross-Country Skier		
Age: 25		
Height: 5'10"		
Weight: 165 lbs.		
Body Fat: 5%		
Event	Calories Burned	Time
30-kilometer race	1,900	90 minutes
50-kilometer race	3,100	120 minutes

Complete the chart below. Start with the information provided in the athlete's profile. Then use what you know to find the missing information. The guiding questions can help.

Event Distance	Time	Calories Burned	Calories Burned per Minute	Speed per Hour	Speed per Minute

Think about the following questions as you work:

- What information from the athlete's profile will help you get started?
- You know how many calories were burned, and how many minutes the race lasted. What might you do to figure out the average calories burned per minute during the race?
- You know the distance and the time of the race. How might you calculate the speed per hour? Per minute?

Female Cross-Country Skier

Age: 25

Height: 5'7"

Weight: 141 lbs.

Body Fat: 11%

Event	Calories Burned	Time
15-kilometer race	1,000	43 minutes
30-kilometer race	2,000	83 minutes

Build formulas so that you can complete the chart below. Start with the information provided in the athlete's profile. Then use what you know to find the missing information. The guiding questions can help.

Event Distance	Time	Calories Burned	Calories Burned per Minute	Speed per Hour	Speed per Minute

Think about the following questions as you work:

- What information from the athlete's profile will help you get started?
- You know how many calories were burned, and how many minutes the race lasted. What might you do to figure out how many calories were burned per minute during the race?
- You know the distance and the time of the race. How might you calculate the speed per hour? Per minute?
- Look at your answers. Do they make sense? How do you know?