

Math A – Unit 1 Review Exercises from the textbook

p. 29 #124 The formula  $C = \frac{5}{9}(F - 32)$  expresses the relationship between Fahrenheit temperature,  $F$ , and Celsius temperature,  $C$ . Use the formula to convert  $41^\circ F$  to its equivalent temperature on the Celsius scale.

Ans.:  $5^\circ C$

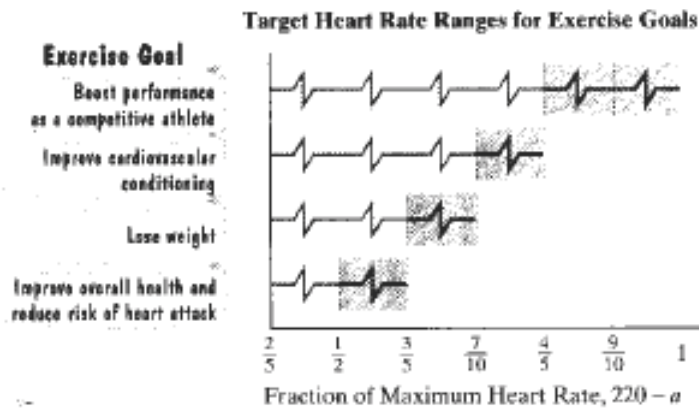
p. 29 #126

The maximum heart rate, in beats per minute, that you should achieve during exercise is 220 minus your age:

$$220 - a$$

The bar graph below shows the target heart rate ranges for four types of exercise goals. The lower and

*upper limits of these ranges are fractions of the maximum heart rate,  $220 - a$ . Exercises 125–128 are based on the information in the graph.*



126. If your exercise goal is to improve overall health, the graph shows the following range for target heart rate,  $H$ , in beats per minute:

Lower limit of range  $H = \frac{1}{2}(220 - a)$

Upper limit of range  $H = \frac{3}{5}(220 - a).$

- What is the lower limit of the heart range, in beats per minute, for a 30-year-old with this exercise goal?  
95 beats per minute
- What is the upper limit of the heart range, in beats per minute, for a 30-year-old with this exercise goal?  
114 beats per minute

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p. 53 #16 The formula  $C = \frac{5}{9}(F - 32)$  expresses the relationship between Fahrenheit temperature,  $F$ , and Celsius temperature,  $C$ . If the temperature is  $50^\circ F$ , use the formula to find the equivalent temperature on the Celsius scale.

Ans.:  $10^\circ C$

p. 145 #83 Suppose that the local sales tax rate is 6% and you buy a car for \$16,800.

- a. How much tax is due?
- b. What is the car's total cost?

Ans.: a. \$1008, b. \$17,808

p. 145 #84 Suppose that the local sales tax rate is 7% and you buy a graphing calculator for \$96.

- a. How much tax is due?
- b. What is the calculator's total cost?

Ans.: a. \$6.72, b. \$102.72

p. 157 #34 A rectangular field is five times as long as it is wide. If the perimeter of the field is 288 yards, what are the field's dimensions?

Ans.: 24 yards wide and 120 yards long

p. 157 #35 An American football field is a rectangle with a perimeter of 1040 feet. The length is 200 feet more than the width. Find the width and length of the rectangular field.

Ans.: 160 feet wide and 360 feet long

p. 157 #36 A basketball court is a rectangle with a perimeter of 86 meters. The length is 13 meters more than the width. Find the width and length of the basketball court.

Ans.: 15 meters wide and 28 meters long