

p. 192 #4

You invested \$20,000 in two accounts paying 7% and 9% annual interest. If the total interest earned for the year was \$1550, how much was invested at each rate? Begin by filling in the missing entry in the following table. Then use the fact that the interest for the two investments combined was \$1550.

| | Principal | X | Rate | = | Interest |
|---------------|--------------|---|------|---|----------|
| 7% Investment | x | | 0.07 | | $0.07x$ |
| 9% Investment | $20,000 - x$ | | 0.09 | | |

Answers: $0.09(20,000 - x)$

\$12,500 at 7% and \$7500 at 9%

p. 192 #6

A bank loaned out \$250,000, part of it at the rate of 8% annual mortgage interest and the rest at the rate of 18% annual credit card interest. The interest received on both loans totaled \$23,000. How much was loaned at each rate? Organize your work in the following table.

| | Principal | X | Rate | = | Interest |
|----------|-----------|---|------|---|----------|
| 8% Loan | x | | 0.08 | | |
| 18% Loan | | | 0.18 | | |

Answers: $0.08x$, $250,000 - x$, $0.18(250,000 - x)$

\$220,000 at 8% and \$30,000 at 18%

p. 218 #1

You invested \$10,000 in two accounts paying 8% and 10% annual interest. At the end of the year, the total interest from these investments was \$940. How much was invested at each rate?

Ans. \$3000 at 8% and \$7000 at 10%

p. 218 #2

You invested money in two accounts that paid 10% and 12% annual interest. The amount invested at 12% exceeded the amount invested at 10% by \$6000. At the end of the year, the total interest from these investments was \$2480. How much was invested at each rate?

Ans. \$8000 at 10% and \$14,000 at 12%

p. 200 #34

The maintenance bill for a shopping center containing 180,000 square feet is \$45,000. What is the bill for a store in the center that is 4800 square feet?

Ans. \$1,200

p. 200 #40

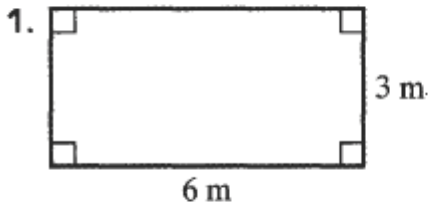
A person's hair length is proportional to the number of years it has been growing. After 2 years, a person's hair grows 8 inches. The longest moustache on record was grown by Kalyan Sain of India. Sain grew his moustache for 17 years. How long was each side of the moustache?

Ans. 68 inches

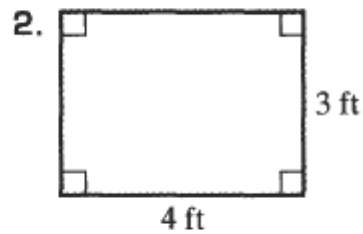
p. 211 #2

Use the formulas for perimeter and area in **Table 3.1** on page 203 to solve Exercises 1–12.

In Exercises 1–2, find the perimeter and area of each rectangle.



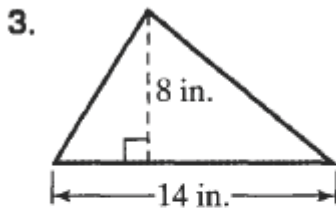
perimeter = 18 m;
area = 18 m^2



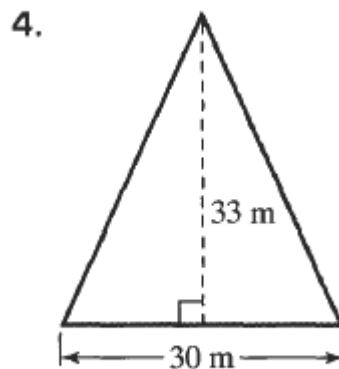
perimeter = 14 ft;
area = 12 ft^2

p. 211 #4

In Exercises 3–4, find the area of each triangle.



56 in^2



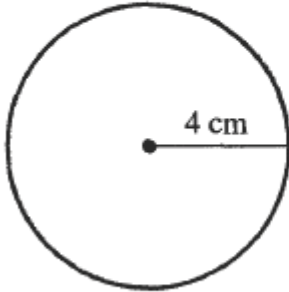
495 m^2

p. 211 #14

Use the formulas for the area and circumference of a circle in **Table 3.2** on page 204 to solve Exercises 13–18.

In Exercises 13–16, find the area and circumference of each circle. Express answers in terms of π . Then round to the nearest whole number.

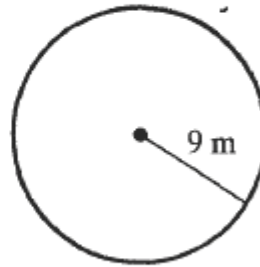
13.



$$\text{area} = 16\pi \text{ cm}^2 \approx 50 \text{ cm}^2;$$

$$\text{circumference} = 8\pi \text{ cm} \approx 25 \text{ cm}$$

14.



$$\text{area} = 81\pi \text{ m}^2 \approx 254 \text{ m}^2;$$

$$\text{circumference} = 18\pi \text{ m} \approx 57 \text{ m}$$

p. 213 #60

Use the formulas for the area and the circumference of a circle in **Table 3.2** on page 204 to solve the problem. Unless otherwise indicated, round all circumference and area calculations to the nearest whole number.

Which one of the following is a better buy: a large pizza with a 16-inch diameter for \$12.00 or two small pizzas, each with a 10-inch diameter, for \$12.00?

Ans. large pizza

p. 219 #30

Which one of the following is a better buy: a medium pizza with a 14-inch diameter for \$6.00 or two small pizzas, each with an 8-inch diameter, for \$6.00?

Ans. medium pizza