Section 3.5
Exercises

Choose the appropriate formula, substitute the given values into the formula and then use your calculator to evaluate. Round answers to four decimal places unless the answer is to be stated in money. In that case, round the answer to 2 decimal places.

1. Find the perimeter of a rectangle with length 15 inches and width 9 inches.
2. Find the perimeter of a square whose sides measure 14.8 cm.
3. Find the circumference of a circle with radius 8 cm. Leave your answer in terms of π.
4. Find the circumference of a circle with diameter 29 ft. Leave your answer in terms of π.
5. Find the area of a parallelogram with base 65 cm and height 1 m.
6. Find the area of a triangle with base 28 inches and height 2 feet.
7. Find the area of a circle with radius 22 mm.
8. Find the area of a trapezoid with bases that measure 18 inches and 2 feet and height 9 inches.
9. Find the surface area of a closed box with length 2 m, width 125 cm and height 24 cm.
10. Find the surface area of a sphere with radius 2.9 feet.
11. Find the volume of a cone with radius 12 inches and height 14 inches.
12. Find the volume of a sphere with radius 13.8 cm.
13. If population is growing exponentially and the growth constant is 0.0185, find the population of a city when $t = 5$ if the initial population is 5.1 million people.
14. If a substance is decaying exponentially, and the decay constant is 0.00389, find the amount of the quantity left after 26 days if the initial quantity was 100 mg.
15. If the temperature is 27° Celsius, what is the temperature on the Fahrenheit scale?
16. If the temperature is 94° Fahrenheit, what is the temperature on the Celsius scale?
17. In a right triangle with right angle C, hypoteneuse that measures 28 inches and one leg that measures 16 inches, find the length of the other side.
18. In right triangle ABC with right angle C and legs that measure 12 cm and 15 cm, find the length of the hypoteneuse.
19. Compute simple interest if the amount invested is $10,000, the interest rate is 3.1% and the money is invested for 4 years.
20. If there is $1800 in a savings account money was invested at 3% simple interest for 2 years, how much money was deposited?
21. Find the future value of an account when $5200 is invested at 4.4% annual interest compounded monthly for 8 years. Assume no other deposits or withdrawals.
22. Find the future value of an account when $300 is invested each month for 5 years and interest is compounded quarterly at 2.6% annual interest.
23. Suppose you want to have $5000 in a savings account in 3 years.

The bank is paying 2.9% annual interest compounded quarterly. How much money should you invest today so that you will have $5000 in 3 years?

24. Suppose you want to have $5000 in a savings account in 3 years. The bank is paying 2.9% annual interest compounded quarterly. How much money should you invest each quarter so that you will have $5000 in 3 years?
25. Suppose you purchase some furniture that costs $15000. You finance the purchase at 14% annual interest compounded monthly for 5 years. How much is your monthly payment?
26. Suppose you purchase a car for $42,000. You receive a trade-in allowance of $6000 for your old car and finance the rest of the purchase price. The interest rate on your loan is 8.9% annual interest compounded monthly for 6 years. How much is your monthly payment?
27. Suppose your friend bought a new car and told you that her monthly payments were $650.75. Her interest rate is also 8.9% annual interest compounded monthly for 6 years. How much did she pay for the car? (Hint: use the present value of an annuity formula.)
28. Suppose you bought a house for $375,000. You made a $75000 down payment and financed the rest of the purchase price. The interest rate was 5.125% annual interest compounded monthly for 30 years. How much were the monthly payments?