

# Simple Interest

## Liberal Arts Mathematics

### Assignment Text

The answer the following problems from Section 6.3 of the textbook: 19, 21, 22, 51, 41, 42, 43, 55.

For reference, the text of the problems are duplicated below.

In the following exercises, find the future value of the investment with the given principal, simple interest rate, and time.

19. Principal is \$5,300, annual interest rate is 2.07%, and time is 18 years.

21. Principal is \$5,600, annual interest rate is 2.55%, for 30 months.

22. Principal is \$10,000, annual interest rate is 1.99%, for 15 months.

51. Sharon invests \$2,500 in a CD for her granddaughter. The CD has a term of 5 years and has a simple interest rate of 3.11%. After that 5-year period, how much will the CD be worth?

In the following exercises, find the present value for the given future value, FV, annual simple interest rate  $r$ , and number of years  $t$ .

41.  $FV = \$25,000$ ,  $t = 15$  years, annual simple interest rate of 6.5%

42.  $FV = \$12,000$ ,  $t = 10$  years, annual simple interest rate of 4.5%

43.  $FV = \$15,000$ ,  $t = 16$  years, annual simple interest rate of 3.5%

55. Kylie wants to invest some money in an account that yields 4.66% simple interest. Her goal is to have \$20,000 in 15 years. How much should Kylie invest to reach that goal?

### Answer Key

19. \$7,274.78

21. \$5,957.00

22. \$10,248.75

51. \$2,888.75

41. \$12,658.23

42. \$8,275.87

43. \$9,615.39

55. \$11,771.64

### Student Feedback Templates

#19 should be \$7,274.78 (  $FV = 5300 \cdot (1 + 0.0207 \cdot 18) = 5300 \cdot 1.3726 = 7274.78$  )

#21 should be \$5,957.00 (  $FV = 5600 \cdot (1 + 0.0255 \cdot 30/12) = 5600 \cdot 1.06375 = 5957$  )

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#22 should be \$10,248.75 (  $FV = 10000 \cdot (1 + 0.0199 \cdot 15/12) = 10000 \cdot 1.024875 = 10248.75$  )

#51 should be \$2,888.75 (  $FV = 2500 \cdot (1 + 0.0311 \cdot 5) = 2500 \cdot 1.1555 = 2888.75$  )

#41 should be \$12,658.23 (  $PV = 25000 / (1 + 0.065 \cdot 15) = 25000 / 1.975 = 12658.22785\dots$ , Round up to 12658.23 )

#42 should be \$8,275.87 (  $PV = 12000 / (1 + 0.045 \cdot 10) = 12000 / 1.45 = 8275.862069\dots$ , Round up to 8275.87 )

#43 should be \$9,615.39 (  $PV = 15000 / (1 + 0.035 \cdot 16) = 15000 / 1.56 = 9615.384615\dots$ , Round up to 9615.39 )

#55 should be \$11,771.64 (  $PV = 20000 / (1 + 0.0466 \cdot 15) = 20000 / 1.699 = 11771.63037\dots$ , Round up to 11771.64 )