

Topic: Calculating simple interest

Question: If you deposit \$100 into a savings account that earns 10 % simple interest per year, how much is in the account after 3 years?

Answer choices:

- A \$110
- B \$120
- C \$100
- D \$130



Solution: D

First, we need to find the interest earned in one year, by multiplying the initial amount by the annual interest rate.

$$10\% \text{ of } \$100$$

$$0.1 \cdot \$100$$

$$\$10$$

Because the account earns simple interest, that means the interest doesn't compound, and the same interest is earned each year. Since we're looking for the account balance after three years, we add to the principal amount three times the interest earned in one year.

$$\$100 + 3(\$10)$$

$$\$100 + \$30$$

$$\$130$$



Topic: Calculating simple interest

Question: How much money will you have if you invest \$100 at 6 % simple interest (per year) for 3 years?

Answer choices:

- A \$103
- B \$110
- C \$118
- D \$210



Solution: C

If your interest rate is 6 % and you start with \$100, you'll earn

$$6 \% \text{ of } \$100$$

$$0.06 \cdot \$100$$

$$\$6$$

per year in interest. Over 3 years, the total interest will be

$$\$6 \cdot 3$$

$$\$18$$

Therefore, at the end of three years, you'll have a total of

$$\$100 + \$18$$

$$\$118$$



Topic: Calculating simple interest

Question: When Sara turned 21 years old, she invested \$2,000 at 10 % simple interest per year. How much will this investment be worth when Sara turns 65?

Answer choices:

- A \$2,650
- B \$10,800
- C \$12,000
- D \$132,528.15



Solution: B

If Sara's interest rate is 10 % and she starts with \$2,000, she'll earn

10 % of \$2,000

$0.1 \cdot \$2,000$

\$200

per year in interest. She has 44 years ($65 - 21 = 44$) between the time that she turned 21 when she invested the money, and the time that she turns 65. So the total interest will be

$\$200 \cdot 44$

\$8,800

Therefore, when she turns 65, Sara will have a total of

$\$2,000 + \$8,800$

\$10,800

