What is Future Value?

Worksheet

Future value is the amount a present sum grows to after compounding at a given rate over a number of periods: FV = PV (1 + r)^n.

FV = PV(1 + r)^n

Questions

1. What is the future value of $1,000 invested for 1 year at 10%?

A) $1,000.00
B) $1,100.00
C) $900.00
D) $1,010.00

2. In FV = PV(1+r)^n, what does n represent?

A) Interest rate
B) Present value
C) Number of compounding periods
D) Future value

3. As the number of years increases (rate fixed), future value

A) decreases
B) stays the same
C) increases
D) becomes negative

4. $1,000 at 5% for 2 years compounded annually equals

A) $1,100.00
B) $1,102.50
C) $1,050.00
D) $1,000.00

5. If you invest $1,000 today at a 6% annual interest rate, what is it worth in 10 years?

6. You deposit $5,000 at a 4% annual rate for 15 years. Find the future value.

7. An investment of $2,000 grows at 10% per year for 8 years.

8. Define: What does future value (FV) measure?

9. Define: What is the future value formula?

10. Define: What happens to FV as the interest rate rises?

Answer Key

1. B) $1,100.00 - FV = 1,0001.10 = $1,100.
2. C) Number of compounding periods - n is the number of periods the money compounds.
3. C) increases - Longer compounding time increases FV.
4. B) $1,102.50 - FV = 1,000(1.05)^2 = 1,0001.1025 = $1,102.50.
5. FV = PV (1+r)^n FV = 1,000 (1.06)^10 FV = 1,000 1.79085 FV $1,790.85
6. FV = 5,000 (1.04)^15 FV = 5,000 1.80094 FV $9,004.72
7. FV = 2,000 (1.10)^8 FV = 2,000 2.14359 FV $4,287.18
8. How much a present sum of money grows to after earning compound interest over time.
9. FV = PV (1 + r)^n
10. FV increases - a higher rate compounds to a larger amount.