**Simple & Compound Interest Answers**

**Question 1:** Michael has $17 in a savings account. The interest rate is 15% per year and is not compounded. How much will he have in 4 years? Use the formula i=p\*r\*t, where **i** is the interest earned, **p** is the principal (starting amount), r is the interest rate expressed as a decimal, and **t** is the time in years.

I = P x R x T

 = 17 x 0.15 x 4

 = 2.55 x 4

 = 10.20

P + I = B

$17 + $10.20 = $27.20

**∴ Michael will have $27.20 in 4 years.**

**Question 2:** Owen has $13 in a savings account. The interest rate is 10% per year and is not compounded. How much will he have in 2 years? Use the formula i=p\*r\*t, where **i** is the interest earned, **p** is the principal (starting amount), r is the interest rate expressed as a decimal, and **t** is the time in years.

I = P x R x T

 = 13 x 0.10 x 2

 = 1.30 x 2

 = 2.60

P + I = B

 $13 + $2.60 = $15.60

**∴ Owen will have $15.60 in 2 years.**

**Question 3:** Michael has $10 in a savings account. The interest rate is 20% per year and is not compounded. How much will he have in 3 years? Use the formula i=p\*r\*t, where **i** is the interest earned, **p** is the principal (starting amount), r is the interest rate expressed as a decimal, and **t** is the time in years.

I = P x R x T

 = 10 x 0.2 x 3

 = 2 x 3

 = 6

P + I = B

$10 + $6 = $16

**∴** Michael will have $16 in 3 years.

**Question 4:** Angela has $10 in a savings account that earns 15% interest, compounded annually. To the nearest cent, how much will she have in 2 years? Use the formula B=p\*(1+r)t, where B is the balance (final amount), **p** is the principal (starting amount), **r** is the interest rate expressed as a decimal, and **t** is the time in years.

B = P x (1 + r)t

 = 10 x (1 + 0.15)2

 = 10 x (1.15)2

 = 10 x 1.3225

 = 13.225

 ≈ 13.23 (rounded)

**∴ Angela will have $13.23 in 2 years.**

**Question 5:** Mia deposited $25 in a savings account earning 20% interest, compounded annually. To the nearest cent, how much will she have in 2 years? Use the formula B=p\*(1+r)t, where B is the balance (final amount), **p** is the principal (starting amount), **r** is the interest rate expressed as a decimal, and **t** is the time in years.

B = P x (1 + r)t

 = 25 x (1 + 0.20)2

 = 25 x (1.20)2

 = 25 x (1.44)

 = 36

**∴ Mia will have $36 in 2 years.**

**Question 6:** Cameron has $15 in a savings account that earns 30% interest, compounded annually. To the nearest cent, how much will he have in 2 years? Use the formula B=p\*(1+r)t, where B is the balance (final amount), **p** is the principal (starting amount), **r** is the interest rate expressed as a decimal, and **t** is the time in years.

B = P x (1 + r)t

 = 15 x (1 + 0.3)2

 = 15 x (1.3)2

 = 15 x (1.69)

 = 25.35

**∴ Cameron will have $25.35 in 2 years.**

**Question 7:** Noah has $15 in a savings account. The interest is 25%, compounded annually. To the nearest cent, how much interest will he earn in 2 years? Use the formula B=p\*(1+r)t, where **B** is the balance (final amount), **p** is the principal (starting amount), **r** is the interest rate expressed as a decimal, and **t** is the time in years.

B = P x (1 + r)t

 = 15 x (1 + 0.25)2

 = 15 x (1.25)2

 = 15 x (1.5625)

 = 23.4375

 ≈ 23.44 (rounded)

**∴ Noah will earn $23.44 in 2 years.**

**Question 8**: Austin deposited $15 in a savings account earning 20% interest, compounded annually. To the nearest cent, how much will he have in 2 years? Use the formula B=p\*(1+r)t, where **B** is the balance (final amount), **p** is the principal (starting amount), **r** is the interest rate expressed as a decimal, and **t** is the time in years.

B = P x (1 + r)t

 = 15 x (1 + 0.2)2

 = 15 x (1.2)2

= 15 x 1.44

 = 21.60

**∴ Austin will have $21.60 in 2 years.**