Fin&Work 11

Simple Interest

Formula: $I = Prt$

$I = (P)(r)(t)$

Where: **I** = interest earned
P = principle amount (initial)
r = rate (as a decimal ! Divide by 100)
t = time (*years)

Example 1: Calculate the interest earned of $3000 over a 4 year period at 5%.

I =

P =

r =

t =

Example 2: Determine the interest earned of $560.00 at 2.5% over a 10 year period.

I =
P =
r =
t =

Example 3: What is the amount in the account if $2,457.16 collects simple interest for 6 months at 7%?

I =
P =
r =
t =

You Try!

a) $2000 at 8% for 5 years

b) $962 at 4.25% for 2.5 years

c) $200,000 at 3% for 15 months

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Formula: $I = Prt$ $I = (P)(r)(t)$

Where:
I = interest earned
P = principle amount (initial)
r = rate (as a decimal ! Divide by 100)
t = time (*years)

Example 1: Calculate the interest earned of $3000 over a 4 year period at 5%.

I = ?
P = 3000
r = 5% = 0.05
t = 4 years

$I = (P)(r)(t)$
$I = (3000)(0.05)(4)$
$I = \$600.00$

after 4 years in a/c = 3000 + 600 = $3600

Example 2: Determine the interest earned of $560.00 at 2.5% over a 10 year period.

1.

I = ?
P = 560
r = 2.5% → 0.025
t = 10 years

$I = P \cdot R \cdot T$
$I = (560)(0.025)(10)$
$I = \$140.00$

Example 3: What is the amount in the account if $2,457.16 collects simple interest for 6 months at 7%? (0.5 years) = 6 months.

I = ?
P = 2457.16
r = 0.07
t = 0.5

$I = PRT$
$= (2457.16)(0.07)(0.5)$
$= \$86.$

Final Amnt in account = 2457.16 + 86 = $2543.16

You Try!

a) $2000 at 8% for 5 years

$I = Prt$
$= (2000)(0.08)(5)$
$= \$800$

b) $962 at 4.25% for 2.5 years

$I = Prt$
$(962)(0.0425)(2.5)$
$= \$102.21$

c) $200,000 at 3% for 15 months

*Need in years!

$\frac{15 \text{ months}}{12} = 1.25 \text{ years}$

$I = Prt$
$= (200000)(0.03)(1.25)$
$= \$7500$

Recall Converting Time Measurements:

Conversion Factors: 1 year = 365 days or 1 year = 12 months

Convert the following to years:

a) $126\ days \times \frac{1\ year}{365\ days} =$

b) $26\ months \times \frac{1\ year}{12\ months} =$

You try ☺ Convert the following to years:

1. 200 days
2. 10 months
3. 40 months
4. 720 days

Simple Interest Practice

1. Calculate the simple interest for each question below:

Principle	Rate	Time	Work	Answer
a) $3000	2%	4 years		
b) $250	5%	3 years		
c) $5000	3.5%	6 years		
d) $4750	6.25%	500 days		
e) $15,750	8.2%	9 months		

Recall Converting Time Measurements:

Conversion Factors: *1 year = 365 days* *or* *1 year = 12 months*

Convert the following to years:

a) $126\ days \times \frac{1\ year}{365\ days} =$ 0.35 years b) $26\ months \times \frac{1\ year}{12\ months} =$ 2.17 years

You try ☺ Convert the following to years:

1. $\frac{200\ days}{365} =$ 0.54 years
2. $\frac{10\ months}{12} =$ 0.83 years
3. $\frac{40\ months}{12} =$ 3.33 years
4. $\frac{720\ days}{365} =$ 1.97 years

Simple Interest Practice

1. Calculate the simple interest for each question below:

I=PRT I=?

Principle	Rate	Time	Work	Answer
a) $3000	2% 0.02	4 years	(3000)(0.02)(4)	240
b) $250	5% 0.05	3 years	(250)(0.05)(3)	37.50
c) $5000	3.5% 0.035	6 years	(5000)(0.035)(6)	1050
d) $4750	6.25% 0.0625	500 days 365 = 1.37 yr	(4750)(0.0625)(1.37) $406.72	$406.72
e) $15,750	8.2% 0.082	~~9 months~~ 12 0.75yr	(15750)(0.082)(0.75) = 968.63	$968.63

2. Calculate the TOTAL amount owed if money is borrowed on simple interest. (Calculate "I" first, then add to P)

I=Prt I+P

Principle	Rate	Time	Work	Answer
a) $50,000	5%	10 yrs		
b) $10,500	7%	5 yrs		
c) $350,000	6.5%	20 yrs		
d) $100,000	7.25%	16 months		
e) $40,000	8.85%	30 days		

3. John borrows $19,500 from a bank for a car. He pays 7.5% over 4.5 years. What is the **total** he must pay back?

4. Mary deposits $5000.00 in a savings account that earns 3.25% and leaves it there for 250 days. What is the interest?