

Compare investment and borrowing options

1

Add 20% tip to \$10

A \$10.80

B \$8.40

C \$12.00

D \$9.00

E \$16.20

F \$12.60

2

40% interest on \$40 principle

A \$50.40

B \$39.20

C \$70.00

D \$47.60

E \$64.40

F \$56.00

3

What is the simple interest in this situation?

Principle = \$100

Rate = 10%

Time = 1yrs

Interest = \$?

A 10

B 12

C 4

D 18

E 11

F 19

4

An investment of \$2,800 earns \$56 in simple interest at a rate of 2%. How much interest would be earned if the time were quadrupled, with the principal and rate unchanged?

A \$245

B \$14

C \$224

D \$56

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Given the simple interest formula, how would you solve for Time?

$$I = PRI$$
$$T = ?$$

A
$$T = \frac{I}{PR}$$

B
$$T = \frac{P}{IR}$$

6

In this model of quarterly compounding growth of money in a savings account, which term represents the time?

$$P = P_0 \cdot (1 + r)^t$$

time = ?

A P_0 B t C F D r **7**

A savings account starts with \$6000. Each subsequent year it earns 8% in interest. After 6 years it has \$9,521.

A
$$9,521 = 6000 \cdot (1 + 0.08)^{(6)}$$

B
$$9,521 = 600 \cdot (1 + 0.08)^{(60)}$$

8

Over the full term of this investment, what are the net earnings (interest minus fees)?

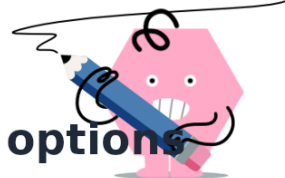
Investment Details	
Principal	\$2,500
Interest Rate	8.4%
Term	1 year
Fees	\$35.00

A \$245.00

B \$175.00

C \$140.00

D \$210.00



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What is the value of the final cash given this model of a yearly compounding growth of money in a savings account?

$$P = 3400 \cdot (1 + 0.06)^{(2)}$$

- | | |
|---|-------------|
| A | $P = 3,820$ |
| B | $P = 3,470$ |
| C | $P = 3,350$ |
| D | $P = 3,640$ |

10

A savings account starts with \$3200. Each subsequent quarter it earns 7% in interest. After 6 quarters it has a certain amount of cash.

- | | |
|---|-------------|
| A | $P = 5,100$ |
| B | $P = 6,500$ |
| C | $P = 4,802$ |
| D | $P = 5,750$ |

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A credit card starts with \$700 of debt. Each subsequent month it grows by 3% in interest. After 5 quarters the debt has grown to a certain amount.

- | | |
|---|-------------|
| A | $D = 1,630$ |
| B | $D = 1,090$ |
| C | $D = 1,560$ |
| D | $D = 1,250$ |

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Including the fee, what single yearly interest rate is equivalent to this investment? Round to one decimal place.

Investment Details	
Principal	\$2,900
Interest Rate	5.5%
Term	1 year
Fees	\$88.50

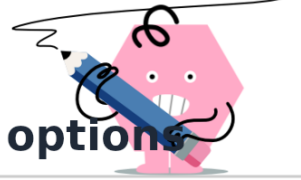
- | | | |
|--------|--------|--------|
| A 5.5% | B 2.0% | C 8.5% |
| D 3.0% | E 2.5% | |

13

What does the highlighted variable in the formula represent?

$$r_{\text{eff}} = \left(1 + \frac{r_{\text{nom}}}{n} \right)^n - 1$$

- | | | | |
|--------------------------------------|------------------------------------|-----------------------------|--|
| A the effective annual interest rate | B the nominal annual interest rate | C the final account balance | D the number of compounding periods per year |
|--------------------------------------|------------------------------------|-----------------------------|--|



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What is the value of the starting cash given this model of a yearly compounding growth of money in a savings account?

$$6,019 = P_0 \cdot (1 + 0.05)^{(3)}$$

A

$$P_0 = 5300$$

B

$$P_0 = 5000$$

C

$$P_0 = 4900$$

D

$$P_0 = 5200$$

15

Over the full term of this investment, what are the net earnings (interest minus fees)?

Investment Details	
Principal	\$4,000
Interest Rate	10.0%
Compounding	Monthly
Term	3 years
Fees	\$357.01

A \$1,035.72 B \$1,392.73 C \$1,749.74 D \$678.71

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Including the fee, what single yearly interest rate is equivalent to this investment? Round to one decimal place.

Investment Details	
Principal	\$650
Interest Rate	2.3%
Compounding	Weekly
Term	5 years
Fees	\$62.75

A 2.3% B 1.0% C 0.5% D 4.1%

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Which option is the better investment (the higher net return)?

Option A: Investment	
Principal	\$500
Interest Rate	5.9%
Term	1 year
Fees	None

Option B: Investment	
Principal	\$500
Interest Rate	8.4%
Term	1 year
Fees	\$13.00

A A B B

18

Which option is the better investment (the higher net return)?

Option A: Investment	
Principal	\$1,400
Interest Rate	5.5%
Compounding	Monthly
Term	5 years
Fees	None

Option B: Investment	
Principal	\$1,400
Interest Rate	6.9%
Compounding	Monthly
Term	5 years
Fees	\$123.66

A B B A