Q:1 The compound interest on Rs 5000 for 3 years at 8% for the first year, 6% for second year and 10% for the third year will be? (in Rs.)
1. 1296.4
2. 1380
3. 1254.6
4. 1200

Q:2 A sum becomes Rs. 880 in 2 years at the rate of 5% per annum at simple interest. Find the amount one receives if he invests the initial amount at compound interest on the same rate and time.
1. Rs 852
2. Rs 852
3. Rs 892
4. Rs 882

Q:3 A bank offers 10% interest yearly and the interest is compounded half yearly. A customer deposits Rs. 10000. At the end of the year, what would be the interest he gains?
1. Rs 1000
2. Rs 1025
3. Rs 10250
4. Rs 1250

Q:4 The difference between Compound interest and Simple interest for 3 years at 8% per annum is Rs 584. What will be the difference between Compound interest and Simple interest of 2 years if Compound interest is calculated half yearly and Simple interest is calculated annually?
1. Rs. 292.05
2. Rs. 297.64
3. Rs. 307.45
4. Rs. 312.60

Q:5 The simple interest received by a person in 15 years on a certain sum at 10% is Rs 1170 more than the simple interest received in 12 years on the same sum at 6%. Find the sum.
1. Rs 1560
2. Rs 1500
3. Rs 1250
4. Rs 720

Q:6 Ramesh took Rs 120000 and Rs 180000 from two different companies. If both companies charge a 6% interest rate, then find the difference between the interest amounts after three years.
1. Rs 10200
2. Rs 9000
3. Rs 10800
4. Rs 14500

Q:7 Shyam invests Rs. 24,000 in a scheme for 2 years at the rate of 10% per annum compounded half-yearly. Calculate the interest. (approx.)
1. Rs. 5,172
2. Rs. 5,000
3. Rs. 5,174
4. Rs. 5,132

Q:8 The simple interest on a certain sum at 3.5% per annum for 5 years is Rs 1224. What would be the interest if the sum is tripled at the same rate and for the same time?
1. Rs 1272
2. Rs 3672
3. Rs 3224
4. Rs 2448

Q:9 Mr. John borrowed Rs 8000 and Rs 14000 from his friend at the rate of 8% and 5% respectively. What will be the difference in the amount after 3 years, if the interest is calculated at simple interest?
1. Rs 180
2. Rs 5890
3. Rs 890
4. Rs 6180

Q:10 Ram lends an amount Rs 1.5 lakhs at 33% per 1.5 years on simple interest. What will be the difference in interest amount after 3 years, if he lends the amount at same rate of compound interest instead?
1. Rs 20563
2. Rs 22550.8
3. Rs 25000
4. Rs 23377.2

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Answer Key

1. (1)	**2.** (4)	**3.** (2)	**4.** (1)	**5.** (2)
6. (3)	**7.** (1)	**8.** (2)	**9.** (4)	**10.** (4)

Answers and Solutions

Q:1 The correct answer is **option 1** i.e. **1296.4**
Given,
Rate for 1st year = 8%
Rate for 2nd year = 6%
Rate for 3rd year = 10%
Principal = Rs 5000
For 1st year, Interest = $(5000 \times 8)/100 = 400$
For 2nd year, principal = 5000 + 400 = 5400
Interest amount on 2nd year = $(5400 \times 6)/100 = 324$
For 3rd year, principal = 5400 + 324 = 5724
Interest amount on 3rd year = $(5724 \times 10)/100 = 527.4$
Hence, Total interest for three years = 400 + 324 + 527.4 = Rs 1296.4

Q:2 The correct answer is **option 4** i.e. **Rs 882.**
Given,
Rate = 5%
Time = 2 years
Principal = P
Amount at SI = Rs. 880
$\Rightarrow SI = (P \times R \times T)/100$
$\Rightarrow SI/P = (5 \times 2)/100$
$\Rightarrow SI : P = 10 : 100$
$\Rightarrow (SI + P) = (10 + 100) = 110$ units
Here, 110 units = 880 (given)
So, 100 units = $(880/110) \times 100 = 800$
Hence, P = Rs 800
The formula for CI:
$A = P [1 + r/100]^{nt}$
n = 1
Amount = $800 [1 + 5/100]^2$
$\Rightarrow 800 [21/20]^2$
$\Rightarrow 800 \times 21/20 \times 21/20$
$\Rightarrow (2 \times 21 \times 21) =$ Rs. 882

Q:3 The correct answer is **option 2** i.e. **Rs.1025**
If the interest is compounded half-yearly the rate will be half and time will be double.
$CI = P(1 + R/100)^n - P$
If interest is compounded half-yearly
The rate will be half = 10/2 = 5%
Time = 1 × 2 = 2 half years
$CI = 10000(1 + 5/100)^2 - 10000 = 10000(21/20)^2 - 10000 = 10000(441/400 - 1) = 10000(41/400)$
$= 4100/4 =$ Rs. 1025

Q:4 The correct answer is **Option 1** i.e. **Rs. 292.05.**
Difference between C.I and S.I. for 3 years
$\text{Difference} = P \times R^2(300 + R)/(100)^3$
$\Rightarrow 584 = P \times 8^2(300 + 8)/(100)^3$
$\Rightarrow 584 \times (100)^3 = P \times 64 \times 308$
$\Rightarrow P = 584 \times (100)^3/64 \times 308$
$\Rightarrow P =$ Rs. 29626.6
Difference between C.I and S.I. for 2 years
$\Rightarrow$ S.I. for 2 years = $(PRT/100) = (29626.6 \times 8 \times 2)/100 =$ Rs. 4740.25
C.I. for 2 years when invested half-yearly = $P(1 + R/200)^{2t} - P = 29626.6(1 + 8/200)^4 - 29626.6 = 29626.6(26/25)^4 - 29626.6 = 34658.9 - 29626.6 =$ Rs. 5032.3
Difference between Compound Interest and Simple Interest for 2 years = Rs. (5032.3 - 4740.25) = Rs. 292.05

Q:5 The correct answer is **option 2** i.e. **Rs 1500.**
Simple Interest = (Principal × rate × time)/100
Let the sum be P
The SI for 15 years at 10% = $(P \times 10 \times 15)/100 = 3P/2$
The SI for 12 years at 6% = $(P \times 12 \times 6)/100 = 18P/25$
According to question,
$(3P/2) - (18P/25) = 1170$
$\Rightarrow (75P - 36P)/50 = 1170$
$\Rightarrow 39P/50 = 1170$
$\Rightarrow P = (1170 \times 50)/39$
$\Rightarrow P = 1500$

Q:6 The correct answer is **option 3** i.e. **Rs 10800**
Given,
Rate of interest = r = 6%
Amount taken from Company I = Rs 120000
Amount taken from Company II = Rs 180000
Time = t = 3 years

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For company I,
Simple Interest = (120000/100) × 6 × 3 = Rs 21600
For company II,
Simple Interest = (180000/100) × 6 × 3 = Rs 32400
Difference in interest amount is = Rs (32400 - 21600) = Rs 10800

Q:7 The correct answer is **Option 1** i.e. **Rs. 5,172**
C.I = P × (1 + R/(100))^T - P , Where P = Principle, R = Rate, T= Time
and C.I. is the compound interest
⇒ C.I = P × (1 + 10/200)^2 - P
⇒ C.I = 24,000 × (21/20)^4 - 24,000
⇒ C.I = 29172.15 - 24000
⇒ C.I = 29172 - 24000 = 5172 (29172.15 ~ 29172)

Q:8 The correct answer is **option 2** i.e. **Rs 3672**.
SI = (Principal × Rate × Time)/100
If the rate and time remain same, simple interest is directly proportional to the sum.
Hence,
Interest if the sum is tripled = 3 × 1224 = Rs. 3672

Q:9 The correct answer is **option 4** i.e. **Rs 6180**
CASE 1:
P = Rs 8000
Rate = r = 8%
Time = t = 3 years
Interest amount = (P/100)rt = (8000/100) (8 × 3) = 80 × 24 = Rs 1920
CASE 2:
P = Rs 14000
Rate = r = 5%
Time = t = 3 years
Interest amount = (P/100)rt = (14000/100) (5 × 3) = 140 × 15 = Rs 2100
Now,
Amount of Case 1 = P + interest amount = 8000 + 1920 = 9920
Amount of Case 2 = P + interest amount = 14000 + 2100 = 16100
Difference = Rs (16100 - 9920) = Rs 6180

Q:10 The correct answer is **option 4** i.e. **Rs 23377.2**
Given,
Principal = P = Rs 150000
Rate of Interest = r = 33/1.5 = 22% per annum
Time = t = 3 years
Formula:
Simple interest = [(P/100)rt] = (150000/100)3 × 22 = 1500 × 3 × 22 = Rs 99000
Compound Interest = P(1 + r/100)^t - P = 150000 (1 + 22/100)^3 - 150000 = (150000 × 122/100 × 122/100 × 122/100) - 150000 = 0.15 × 122 × 122 × 122 - 150000 = Rs 272377.2 - 150000 = Rs 122377.2
Difference of CI and SI = CI - SI = Rs (122377.2 - 99000) = Rs 23377.2

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