SI & CI

FIND NET RATE / FRACTION:-

Type-1

4% @ CI for 2 years.

(a) 8%

(b) 8.08%

(c) 8.16%

(d) 8.64%

2yrs CI

$2a + \frac{a^2}{100}$

3yrs CI

$3a \cdot 3a^2 a^3$

8.16

7% @ CI for 2 years.

(a) 14.49%

(b) 14.14%

(c) 14.07%

(d) 14%

13% @ CI for 2 years.

(a) 27.69%

(b) 27.96%

(c) 26.69%

(d) 26.96%

२७.६९

$14\frac{2}{7}$ % @ CI for 2 years.

(a) 8/49

(b) 15/49

(c) 2/7

(d) 17/49

$\left(\frac{8}{7}\right)^2 \rightarrow \frac{64}{49} \xrightarrow{+15}$

$\frac{15}{49}$

(B)

$\frac{1}{7} \rightarrow \frac{7\times2+1}{7^2}$

$11\frac{1}{9}\%$ @ CI for 2 years.

(a) 2/9

(b) 7/27

(c) 17/81

(d) 19/81

$\frac{9\times2+1}{81}$

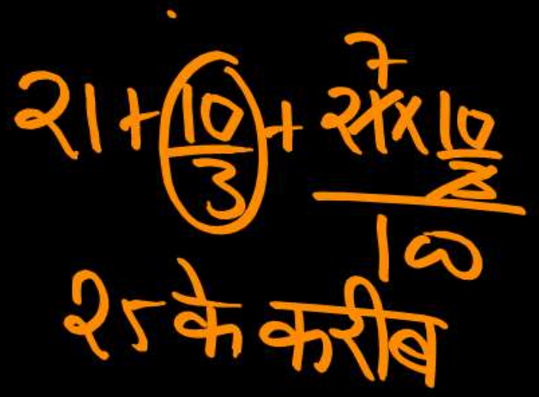
10% @ CI for $2\frac{1}{3}$ years.

(a) 25.03%

(b) 27.05%

(c) 28.25%

(d) 29.15%



10% @ CI for 2.5 years.

(a) 20%

(b) 27.05%

(c) 21%

(d) 20.40%

B

२१+५+२१×५/१०

10% @ CI for $2\frac{2}{5}$ years.

$\times \frac{2}{5}$

(a) 25%

(b) 24%

$21+4+\frac{21\times4}{10}$

(c) 24.84%

(d) 25.84%

15% @ CI for $2\frac{2}{5}$ years.

$\times \frac{2}{5}$

(a) 38.75%

(b) 42.25%

(c) 40.18%

(d) 41.28%

38.25

$\frac{1.92}{100}$

$32.25 + 6 + \frac{32.25 \times 6}{100}$

8% @ CI for $2\frac{5}{8}$ years.

(a) 21.76%

(b) 18.72%

(c) 21%

(d) 22.47%

$16.64 + 2 + \frac{16.64 \times 5}{100}$

D

1 ②

19 · 10 16

$3a \cdot 3a^2 a^3$

6% @ CI for 3 years.

(a) 18%

(b) 19.3%

(c) 20%

(d) 19.1%

①

5% @ SI for 3.5 years.

(a) 16.5%

(b) 17.5%

(c) 18%

(d) 18.5%

6.5% @ SI for 4 years.

(a) 24%

(b) 25%

(c) 26%

(d) 27%

8.75% @ SI for 4 years.

(a) 30%

(b) 35%

(c) 36%

(d) 33%

9.8% @ SI for 6 years.

(a) 58.8%

(b) 54.72%

(c) 54.48%

(d) 56.4%

9.7% @ SI for 6 years.

(a) 56%

(b) 58.2%

(c) 56.4%

(d) 59.4%

4% @ SI for 8.5 years.

(a) 35%

(b) 32%

(c) 34%

(d) 36%

Type-2

Find difference between SI and CI (% or fraction):-

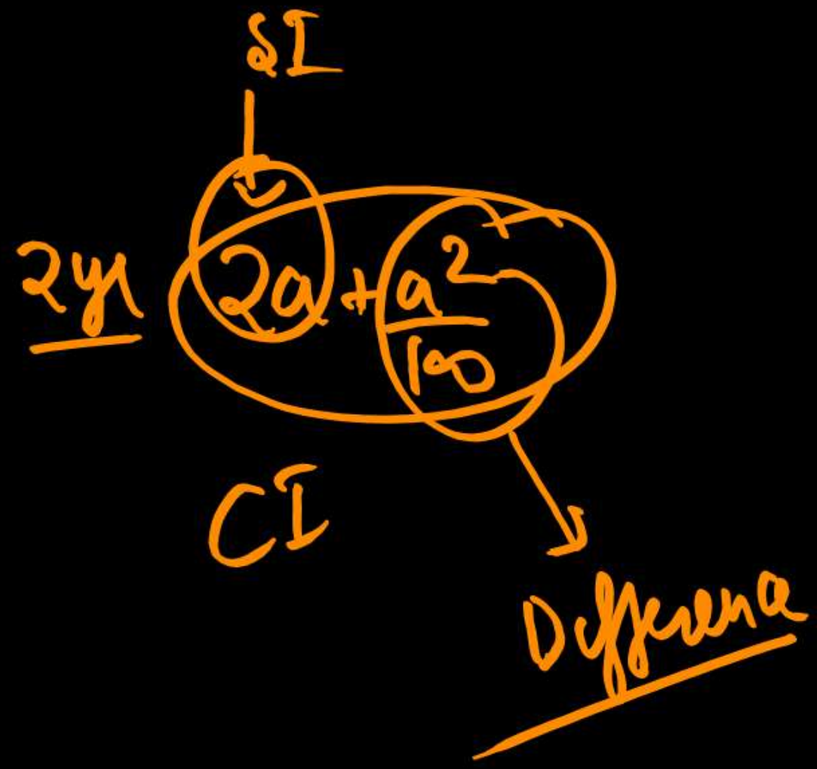
4% for 2 years.

(a) 0.4%

(b) 0.08%

(c) 0.16%

(d) 0.8%



4% for 3 years.

(a) 0.6464%

(b) 0.6484%

(c) 0.4648%

(d) 0.4864%

SI $3a$

CI $3a, 3a^2, a^3$

$\cdot 4864$

10% for 3 years.

(a) 3%

(b) 3.31%

(c) 3.1%

(d) 3.6%

30%
33.1%

$11\frac{1}{9}\%$ for 2 years.

$\frac{1}{9}$

(a) 1/18

(b) 1/27

(c) 1/81

(d) 2/81

81

9

9 1

CI - SI = $\frac{1}{81}$

$16\frac{2}{3}\%$ for 2 years.

$\frac{1}{36}$

(a) 1/36

(b) 1/9

(c) 1/64

(d) 1/30

$8\frac{1}{3}$% for 2 years.

144
12
12 (1)

$\frac{1}{144}$

(a) 1/96

(b) 1/60

(c) 1/156

(d) 1/144

$11\frac{1}{9}$ % for 3 years.

(a) 28/729

(b) 1/81

(c) 11/729

(d) 19/729

729

81

81 9

81 18 1

$\frac{28}{729}$

$12\frac{1}{2}$ % for 3 years.

(a) 3/64

(b) 1/512

(c) 25/512

(d) 17/512

512

64

64 8

64 16 1

$\frac{25}{512}$

$9\frac{1}{11}$% for 3 years.

(a) 1/121

(b) 23/1331

(c) 1/1331

(d) 34/1331

$11^3 = 1331$

121

121 11

121 22 1

34

1331

20% for 3 years.

(a) 15.68%

(b) 1.56%

(c) 12.8%

(d) 1.28%

$\left(\frac{12}{10}\right)^3 = \frac{1728}{1000}$

CI 72.8%

SI 60%

12.8%

5% for 1st year and 10% for 2nd year.

(a) 0.25%

(b) 0.75%

(c) 0.5%

(d) 1.5%

$x + y + \frac{xy}{100}$ — CI − SI

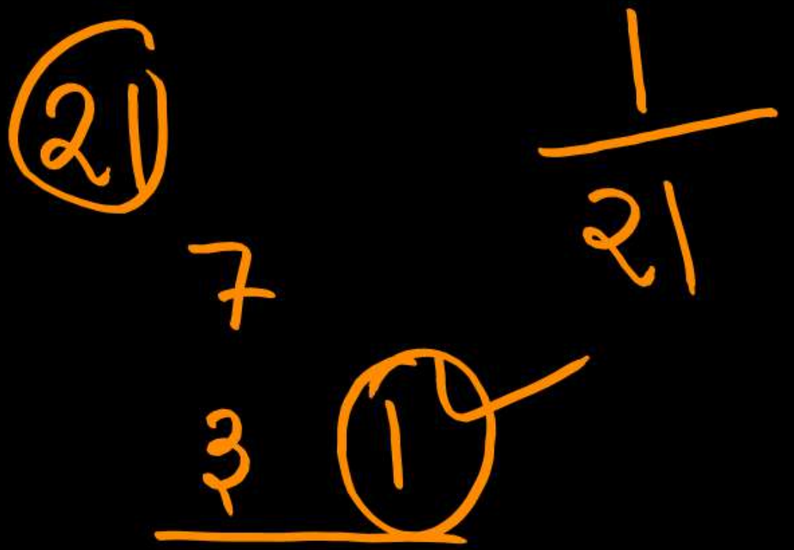
$33\frac{1}{3}$% for 1st year and $14\frac{2}{7}$% for 2nd year.

(a) 1/14

(b) 1/42

(c) 1/21

(d) 1/35



$16\frac{2}{3}$ % for 1st year and $33\frac{1}{3}$ % for 2nd year.

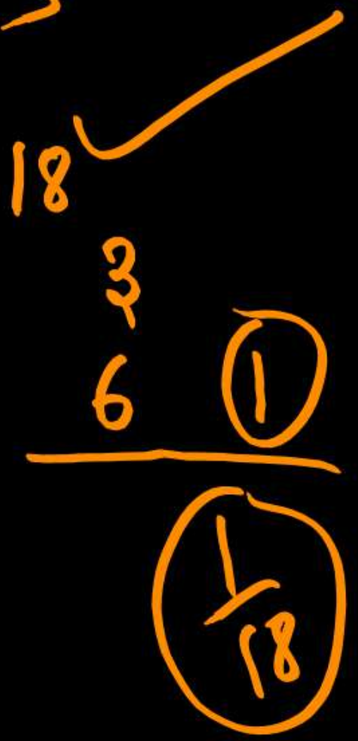
$\frac{2}{3} \rightarrow \frac{1}{6}$ $\quad$ $\frac{1}{3} \rightarrow \frac{1}{3}$

(a) 1/9

(b) 1/18

(c) 1/27

(d) 1/24



$12\frac{1}{2}$% for 1st year and $9\frac{1}{11}$% for 2nd year.

(a) 1/72

(b) 1/88

(c) 1/84

(d) 1/108

$\frac{1}{72}$

Type-3

FIND THE COMPOUND INTEREST (in %) IN EACH CASE:-

10% · 2 बार

20% p.a. @ CI half yearly in 1 year?

(a) 22%

(b) 21%

(c) 22.5%

(d) 21.50%

$2a + \frac{a^2}{100}$

(3) $xy + \frac{xy}{100}$

14% p.a. @ CI half yearly in 1 year?

(a) 14.49%

(b) 15.28%

(c) 14.28%

(d) 14.14%

10-10

20% p.a. @ CI half yearly in $1\frac{1}{2}$ year?

डेढ़

(a) 33.01%

(b) 33.5%

(c) 33.3%

(d) 33.1%

$33\frac{1}{3}$% p.a. @ CI half yearly in 1 year?

(a) 35.21%

(b) 36.11%

(c) 36.36%

(d) 36.89%

B

$\frac{1}{3}$ $\frac{1}{6}$ 2 बार

36
6
6 1

$\frac{13}{36} \times 100$ 36.1

$18\frac{2}{11}$% p.a. @ CI half yearly in 1 year?

(a) 20.5%

(b) 21%

(c) 20%

(d) 19%

$14\frac{2}{7}\%$ p.a. @ CI half yearly in 1 year?

(a) 14.8%

(b) 15%

(c) 15.8%

(d) 14.6%

196

14

14 1

14.8

~~2900~~

~~196~~

$9\frac{1}{11}$% p.a. @ CI half yearly in 1 year?

(a) 9.29%

(b) 11.11%

(c) 10.09%

(d) 9.90%

$\frac{45}{484} \times 100$

8%.

12% p.a. @ CI compounded 8 monthly in 2 year?

24m

3बार

(a) 24.96%

(b) 25.97%

(c) 28.84%

(d) 26.96%

25.97 | 2%.

$3a \cdot 3a^2 a^3$

12% p.a. @ CI compounded 5 monthly in 10 months?

(a) 11%

(b) 11.25%

(c) 12.25%

(d) 10.25%

12% p.a. @ CI compounded 8 monthly in $1\frac{1}{3}$ years?

8%

$1\frac{1}{3}$

16m

2वार

(a) 24.46%

(b) 12.45%

(c) 18.64%

(d) 16.64%

16.64

15% p.a. @ CI compounded 10 monthly in $2\frac{1}{2}$ years?

(a) 37.50%

(b) 45.30%

(c) 42.38%

(d) 40.50%

$14\frac{2}{7}$% p.a. @ CI compounded 4 monthly in $\frac{2}{3}$ year?

(a) 10.25%

(b) 9.75%

(c) 15.25%

(d) 11.75%

12m → $\frac{1}{7}$

4m → $\frac{1}{21}$

441
21
21 | 1

$\frac{4300}{441}$

$16\frac{2}{3}$ % p.a. @ CI compounded 6 monthly for 1 year?

(a) 17.36%

(b) 18.66%

(c) 32.45%

(d) 20.26%

144
12
12 1

17
250

144

$44\frac{4}{9}\%$ p.a. @ CI compounded quarterly for 9 month?

(a) 36.1%

(b) 35.1%

(c) 33.1%

(d) ~~37.1%~~

$\frac{4}{9}$

$\frac{1}{9}$

3बार

$\left(\frac{10}{9}\right)^3 = \frac{1000}{729}$

271
27
27100
729

20% p.a. @ CI for 3rd year?

(a) 25.6%

(b) 30.8%

(c) 29.6%

(d) 28.8%

D

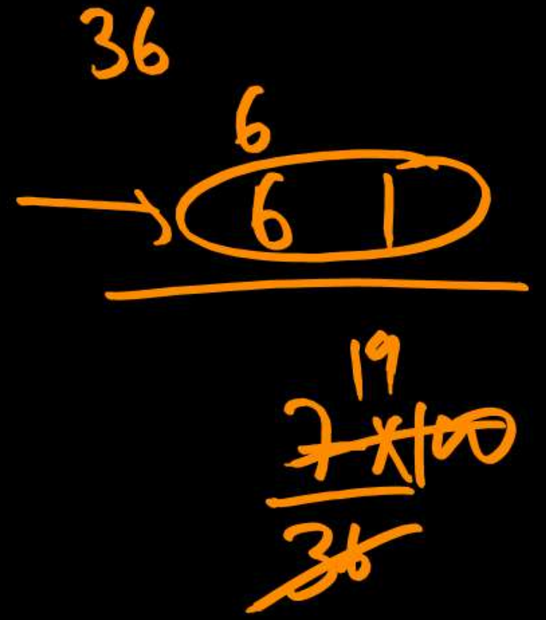
$16\frac{2}{3}$ % p.a. @ CI for 2nd year?

(a) 18.24%

(b) 20.64%

(c) 19.44%

(d) 18.33%



$6\frac{1}{4}$ % p.a. @ CI for 2nd year?

1/16

(a) 7.24%

(b) 6.64%

256
16
16 1

(c) 6.28%

6·6
1700
256

(d) 8.32%

B

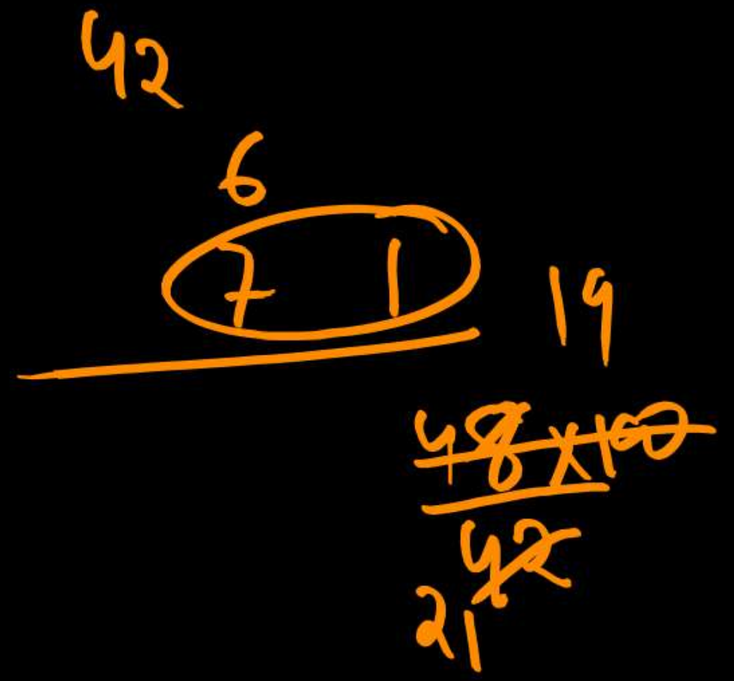
$14\frac{2}{7}\%$ p.a. @ CI for 1st year and $16\frac{2}{3}\%$ for 2nd year then compound interest for 2nd year?

(a) 19.04%

(b) 18.64%

(c) 20.24%

(d) 16.08%



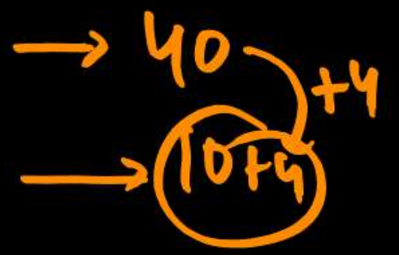
40% p.a. @ CI for 1st year and 10% for 2nd year then compound interest for 2nd year?

(a) 12%

(b) 13%

(c) 16%

(d) 14%



20% p.a. @ CI for 1st year and 25% for 2nd year then compound interest for 2nd year?

(a) 28%

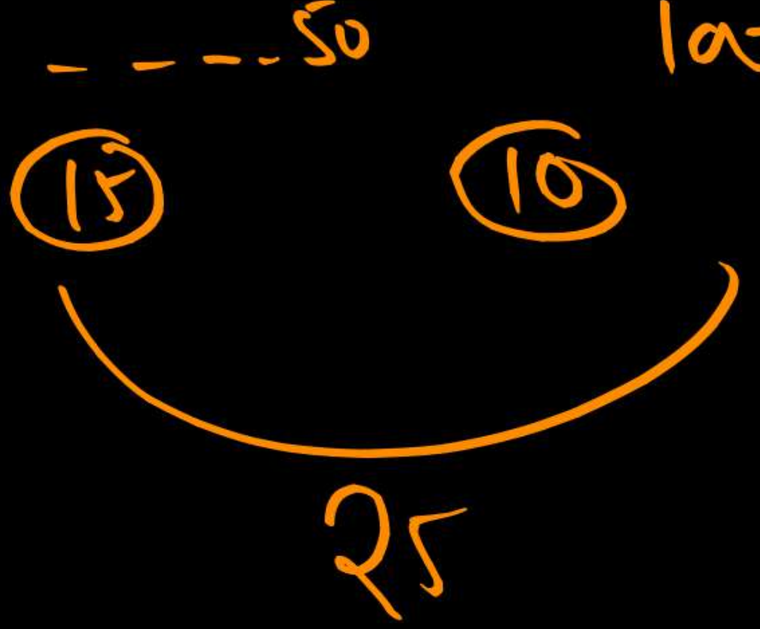
(b) 32%

(c) 30%

(d) 29%

Prime Number (अभाज्य संख्या)

सबसे छोटा
2
Only even



1 Prime ✗
Composite ✗

- **100% True Method to Find Prime Number**

Is 83 prime or not ?

$\sqrt{83} \simeq 9.\_$

2, 3, 5, 7

83 prime no. ✓

- 100% True Method to Find Prime Number

Is 76 prime or not ?

- **100% True Method to Find Prime Number**

Is 281 prime or not ?

$\sqrt{281} = 16.....$

2, 3, 5, 7, 11, 13

281 prime ✓

- **100% True Method to Find Prime Number**

Is 449 prime or not ?

$\sqrt{449} = 21.\ldots$

$\not{2}\ \not{3}\ \not{5}\ \not{7}\ \not{11}\ \not{13}\ \not{17}\ \not{19}$

✓✓

- **Special Properties of Prime Number**

1. **Prime Numbers** (अभाज्य संख्याए) **between (1 – 50) ⇒ 15**
2. **Prime Numbers** (अभाज्य संख्याए) **between (1 – 100) ⇒ 25**
3. **Prime Numbers** (अभाज्य संख्याए) **between (1 – 200) ⇒ 46**
4. **Prime Numbers** (अभाज्य संख्याए) **between (1 – 500) ⇒ 95**
5. **Prime Numbers** (अभाज्य संख्याए) **between (1 – 1000) ⇒ 168**
6. जुड़वां अभाज्य संख्याएं **(Twin Prime Numbers)**
   वह दो **Prime Numbers** जिनका अंतर **(Difference) 2** हो
   Eg. (3, 5) (11, 13), (17, 19) etc.
7. सबसे छोटी **2** अंकीय अभाज्य संख्या → **11**
8. सबसे बड़ी **2** अंकीय अभाज्य संख्या → **97**
9. सबसे छोटी **3** अंकीय अभाज्य संख्या → **101**
10. सबसे बड़ी **3** अंकीय अभाज्य संख्या → **997**

Prime no. की

Last digit 1, 3, 7, 9 ✓ हमेशा

Reverse not true

Last digit 2, 4, 6, 8, 0 ✗

33 ✓ 34 ✗

$\frac{N}{6} \rightarrow R = 1$ या 5

- How to Find Given Number is not Prime Number?

251

- How to Find Given Number is not Prime Number?

487

- How to Find Given Number is not Prime Number?

353

- How to Find Given Number is not Prime Number?

449