Book For

State Bank Of India

भारतीय स्टेट बैंक
State Bank of India

SBI Assistant Aptitude Sample Paper

(1)

$\frac{\log 8}{\log 8}$ is equal to:

[A] $\frac{1}{8}$

[B] $\frac{1}{4}$

[C] $\frac{1}{2}$

[D] $\frac{1}{8}$

Answer : [C]

Explanation:

$\frac{\log 8}{\log 8} = \frac{\log (8)^{1/2}}{\log 8} = \frac{\frac{1}{2}\log 8}{\log 8} = \frac{1}{2}.$

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(2) If log 27 = 1.431, then the value of log 9 is:

[A] 0.934

[B] 0.945

[C] 0.954

[D] 0.958

Answer : [C]

Explanation:

log 27 = 1.431

$\Rightarrow \log (3^3) = 1.431$

$\Rightarrow 3 \log 3 = 1.431$

$\Rightarrow \log 3 = 0.477$

$\therefore \log 9 = \log(3^2) = 2 \log 3 = (2 \times 0.477) = 0.954.$

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(3)

If $\log_{10} 7 = a$, then $\log_{10}\left(\frac{1}{70}\right)$ is equal to:

[A] $-(1 + a)$

[B] $(1 + a)^{-1}$

[C] $\frac{a}{10}$

[D] $\frac{1}{10a}$

Answer : [A]

Explanation:

$\log_{10}\left(\frac{1}{70}\right) = \log_{10} 1 - \log_{10} 70$

$= - \log_{10} (7 \times 10)$

$= - (\log_{10} 7 + \log_{10} 10)$

$= - (a + 1)$.

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(4)

The value of $\left(\frac{1}{\log_3 60} + \frac{1}{\log_4 60} + \frac{1}{\log_5 60}\right)$ is:

[A] 0

[B] 1

[C] 5

[D] 60

Answer : [B]

Explanation:

Given expression $= \log_{60} 3 + \log_{60} 4 + \log_{60} 5$

$= \log_{60} (3 \times 4 \times 5)$

$= \log_{60} 60$

$= 1$.

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(5) If $\log_{10} 5 + \log_{10} (5x + 1) = \log_{10} (x + 5) + 1$, then x is equal to:

[A] 1

[B] 3

[C] 5

[D] 10

Answer : [B]

Explanation:

$\log_{10} 5 + \log_{10} (5x + 1) = \log_{10} (x + 5) + 1$

$\Rightarrow \log_{10} 5 + \log_{10} (5x + 1) = \log_{10} (x + 5) + \log_{10} 10$

$\Rightarrow \log_{10} [5 (5x + 1)] = \log_{10} [10(x + 5)]$

$\Rightarrow 5(5x + 1) = 10(x + 5)$

$\Rightarrow 5x + 1 = 2x + 10$

$\Rightarrow 3x = 9$

$\Rightarrow x = 3$.

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(6) A can do a work in 15 days and B in 20 days. If they work on it together for 4 days, then the fraction of the work that is left is :

[A]

$\frac{1}{4}$

[B]

$\frac{1}{10}$

[C]

$\frac{7}{15}$

[D]

$\frac{8}{15}$

Answer : [D]

Explanation:

A's 1 day's work = $\frac{1}{15}$;

B's 1 day's work = $\frac{1}{20}$;

(A + B)'s 1 day's work = $\left(\frac{1}{15} + \frac{1}{20}\right) = \frac{7}{60}$.

(A + B)'s 4 day's work = $\left(\frac{7}{60} \times 4\right) = \frac{7}{15}$.

Therefore, Remaining work = $\left(1 - \frac{7}{15}\right) = \frac{8}{15}$.

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(7) 10 women can complete a work in 7 days and 10 children take 14 days to complete the work. How many days will 5 women and 10 children take to complete the work?

[A] 3

[B] 5

[C] 7

[D] Cannot be determined

[E] None of these

Answer : [C]

Explanation:

1 woman's 1 day's work = $\frac{1}{70}$

1 child's 1 day's work = $\frac{1}{140}$

(5 women + 10 children)'s day's work = $\left(\frac{5}{70} + \frac{10}{140}\right) = \left(\frac{1}{14} + \frac{1}{14}\right) = \frac{1}{7}$

$\therefore$ 5 women and 10 children will complete the work in 7 days.

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(8) 4 men and 6 women can complete a work in 8 days, while 3 men and 7 women can complete it in 10 days. In how many days will 10 women complete it?

[A] 35

[B] 40

[C] 45

[D] 50

Answer : [B]

Explanation:
Let 1 man's 1 day's work = x and 1 woman's 1 day's work = y.
Then, $4x + 6y = \frac{1}{8}$ and $3x + 7y = \frac{1}{10}$.

Solving the two equations, we get: $x = \frac{11}{400}$, $y = \frac{1}{400}$

$\therefore$ 1 woman's 1 day's work = $\frac{1}{400}$.

$\Rightarrow$ 10 women's 1 day's work = $\left(\frac{1}{400} \times 10\right) = \frac{1}{40}$.

Hence, 10 women will complete the work in 40 days.

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(9) A and B can do a piece of work in 30 days, while B and C can do the same work in 24 days and C and A in 20 days. They all work together for 10 days when B and C leave. How many days more will A take to finish the work?

[A] 18 days

[B] 24 days

[C] 30 days

[D] 36 days

Answer : [A]

Explanation:
2(A + B + C)'s 1 day's work = $\left(\frac{1}{30} + \frac{1}{24} + \frac{1}{20}\right) = \frac{15}{120} = \frac{1}{8}$.

Therefore, (A + B + C)'s 1 day's work = $\frac{1}{2 \times 8} = \frac{1}{16}$.

Work done by A, B, C in 10 days = $\frac{10}{16} = \frac{5}{8}$.

Remaining work = $\left(1 - \frac{5}{8}\right) = \frac{3}{8}$.

A's 1 day's work = $\left(\frac{1}{16} - \frac{1}{24}\right) = \frac{1}{48}$.

Now, $\frac{1}{48}$ work is done by A in 1 day.

So, $\frac{3}{8}$ work will be done by A in $\left(48 \times \frac{3}{8}\right)$ = 18 days.

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(10) A takes twice as much time as B or thrice as much time as C to finish a piece of work. Working together, they can finish the work in 2 days. B can do the work alone in:

[A] 4 days

[B] 6 days

[C] 8 days

[D] 12 days

Answer : [B]

Explanation:

Suppose A, B and C take x, $\frac{x}{2}$ and $\frac{x}{3}$ days respectively to finish the work.

Then, $\left(\frac{1}{x} + \frac{2}{x} + \frac{3}{x}\right) = \frac{1}{2}$

$\Rightarrow \frac{6}{x} = \frac{1}{2}$

$\Rightarrow x = 12$.
So, B takes (12/2) = 6 days to finish the work.

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(11) By investing in $16\frac{2}{3}$% stock at 64, one earns Rs. 1500. The investment made is:

[A] Rs. 5640

[B] Rs. 5760

[C] Rs. 7500

[D] Rs. 9600

Answer : [B]

Explanation:

To earn Rs. $\frac{50}{3}$, investment = Rs. 64.

To earn Rs. 1500, investment = Rs. $\left(64 \times \frac{3}{50} \times 1500\right)$ = Rs. 5760.

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(12) Which is better investment: 11% stock at 143 or $9\frac{3}{4}$% stock at 117?

[A] 11% stock at 143

[B]
$9\frac{3}{4}$% stock at 117

[C] Both are equally good

[D] Cannot be compared, as the total amount of investment is not given.

Answer : [B]

Explanation:

Let investment in each case be Rs. (143 x 117).

Income in 1st case = Rs. $\left(\frac{11}{143} \times 143 \times 117\right)$ = Rs. 1287.

Income in 2nd case = Rs. $\left(\frac{39}{4 \times 117} \times 143 \times 117\right)$ = Rs. 1394.25

Clearly, $9\frac{3}{4}$% stock at 117 is better.

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(13) A man invested Rs. 4455 in Rs. 10 shares quoted at Rs. 8.25. If the rate of dividend be 12%, his annual income is:

[A] Rs. 207.40

[B] Rs. 534.60

[C] Rs. 648

[D] Rs. 655.60

Answer : [C]

Explanation:

Number of shares = $\left(\frac{4455}{8.25}\right)$ = 540.

Face value = Rs. (540 x 10) = Rs. 5400.

Annual income = Rs. $\left(\frac{12}{100} \times 5400\right)$ = Rs. 648.

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(14) A 6% stock yields 8%. The market value of the stock is:

[A] Rs. 48

[B] Rs. 75

[C] Rs. 96

[D] Rs. 133.33

Answer : [B]

Explanation:

For an income of Rs. 8, investment = Rs. 100.

For an income of Rs. 6, investment = Rs. $\left(\frac{100}{8} \times 6\right)$ = Rs. 75.

$\therefore$ Market value of Rs. 100 stock = Rs. 75.

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(15) A man invests some money partly in 9% stock at 96 and partly in 12% stock at 120. To obtain equal dividends from both, he must invest the money in the ratio:

[A] 3 : 4

[B] 3 : 5

[C] 4 : 5

[D] 16 : 15

Answer : [D]

Explanation:

For an income of Re. 1 in 9% stock at 96, investment = Rs. $\left(\frac{96}{9}\right)$ = Rs. $\frac{32}{3}$

For an income Re. 1 in 12% stock at 120, investment = Rs. $\left(\frac{120}{12}\right)$ = Rs. 10.

$\therefore$ Ratio of investments = $\frac{32}{3}$: 10 = 32 : 30 = 16 : 15.

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(16) An accurate clock shows 8 o'clock in the morning. Through how may degrees will the hour hand rotate when the clock shows 2 o'clock in the afternoon?

[A] 144?

[B] 150?

[C] 168?

[D] 180?

Answer : [D]

Explanation:

Angle traced by the hour hand in 6 hours = $\left(\frac{360}{12} \times 6\right)^{?}$ = 180?.

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(17) The reflex angle between the hands of a clock at 10.25 is:

[A] 180?

[B]
$192\ \frac{1}{2}^{?}$

[C] 195?

[D]
$197\ \frac{1}{2}^{?}$

Answer : [D]

Explanation:

Angle traced by hour hand in $\frac{125}{12}$ hrs = $\left(\frac{360}{12} \times \frac{125}{12}\right)^{?}$ = $312\frac{1}{2}^{?}$.

Angle traced by minute hand in 25 min = $\left(\frac{360}{60} \times 25\right)^{?}$ = 150?.

$\therefore$ Reflex angle = 360? - $\left(312\frac{1}{2} - 150\right)^{?}$ = 360? - $162\frac{1}{2}^{?}$ = $197\frac{1}{2}$.

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(18) The angle between the minute hand and the hour hand of a clock when the time is 4.20, is:

[A] 0?

[B] 10?

[C] 5?

[D] 20?

Answer : [B]

Explanation:

Angle traced by hour hand in $\frac{13}{3}$ hrs = $\left(\frac{360}{12} \times \frac{13}{3}\right)^?$ = 130?.

Angle traced by min. hand in 20 min. = $\left(\frac{360}{60} \times 20\right)^?$ = 120?.

∴ Required angle = (130 - 120)? = 10?.

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(19) How many times are the hands of a clock at right angle in a day?

[A] 22

[B] 24

[C] 44

[D] 48

Answer : [C]

Explanation:

In 12 hours, they are at right angles 22 times.
∴ In 24 hours, they are at right angles 44 times.

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(20) At what time, in minutes, between 3 o'clock and 4 o'clock, both the needles will coincide each other?

[A]
$5\frac{1}{11}''$

[B]
$12\frac{4}{11}''$

[C]
$13\frac{4}{11}''$

[D]
$16\frac{4}{11}''$

Answer : [D]

Explanation:

At 3 o'clock, the minute hand is 15 min. spaces apart from the hour hand.
To be coincident, it must gain 15 min. spaces.
55 min. are gained in 60 min.

15 min. are gained in $\left(\frac{60}{55} \times 15\right)_{min}$ = $16\frac{4}{11}$ min.

∴ The hands are coincident at $16\frac{4}{11}$ min. past 3.
