what is the profit or loss percent..

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Model Questions

1. [(6878 + 1333 − 8031) − (12.02 × 1.99 × 7.09)] × 2.532 = ?
a) −240 b) 40 c) 30
d) −180 e) −160

2. (97.66 × 3.94 + 4.14) ÷ 2.90 + 44.80 = 185.91 + 3.01 × ?
a) 4 b) 9 c) − 6
d) 8 e) −3

3. $\frac{340}{34.023}\ \frac{46.98}{510}\ \frac{119}{94.01}$ = ?
a) 1.5 b) 2.1 c) 2.4
d) 1.2 e) 1.7

4. 331.80 ÷ 3.80 + 47.80 = 41.17% of 400 − ?
a) 24 b) 6 c) 40
d) 15 e) 33

5. 237.76 × 14.98 + $?^3$ + 184.54 × 3.98 = 5036.75
a) 31 b) 16 c) 27
d) 9 e) 13

Directions (Q.No.6-10): Find out the wrong number in the series.

6. 1, 15, 35, 63, 101, 150
a) 15 b) 150 c) 35
d) 60 e) 101

7. 2, 4, 8, 15, 26.5, 45.75
a) 4 b) 8 c) 15
d) 26.5 e) 45.75

8. 1, 2, 5, 13, 35.5, 114.5
a) 2 b) 5 c) 13
d) 114.5 e) 35.5

9. 1, 7, 37, 57, 188, 229
a) 7 b) 188 c) 57
d) 37 e) 229

10. 3, 4, 10, 43, 348, 5583
a) 4 b) 10 c) 348
d) 5583 e) 43

Directions (Q.No.11-15): Each question below is followed by two statements I and II. You have to determine whether the data given in the statement is sufficient for answering the question. You should use the data any your knowledge of Mathematics to choose the best possible answer.

11. The simple interest on a sum of money is Rs. 216. Calculate the sum.
I) It has been 3 years since the sum was deposited and the rate of interest was 4% per annum.
II) The simple interest for one year is Rs. 72.
a) If the data given in the statement I alone is sufficient to answer the question whereas the data given in statement II alone are not sufficient to answer the question.
b) If the data given in the statement II alone is sufficient to answer the question whereas the data given in statement I alone are not sufficient to answer the question.
c) If the data given in either statement I or in statement II alone is sufficient to answer the question.
d) If the data given in both statement I and II is not sufficient to answer the question.
e) If the data given in both statement I and II is necessary to answer the question.

12. How long will it take for two pipes A and B to fill an empty cistern if they worked alternately for an hour each?
I) Working alone, Pipe A can fill the cistern in 60 hours
II) Pipe B is one third as efficient as Pipe A
a) Only I b) Either I or II
c) Both I and II
d) Neither of them
e) None of the above

13. What is the length of the train?
I) The train crosses a signal post in 8 sec
II) The train crosses another train 100 m long coming from the opposite direction at 72 km/hr in 6.4 sec.
a) Only I b) Only II
c) Only Both I and II
d) Either I or II
e) Neither I nor II

14. If the selling price of an article is Rs. 12000, then what is the profit or loss percent on it?
I) If the ratio of the selling price and cost price of the article is 4 : 3.
II) The difference between the cost price and the selling price of the article is Rs. 3000.
a) If the data statement I alone is sufficient to answer the question, while the data in statement II alone is not sufficient to answer the question.
b) If the data in statement II alone is sufficient to answer the question, while the data is statement I alone is not sufficient to answer the question.
c) If the data either in statement I alone or in statement II alone is sufficient to answer the question.
d) If the data given in both statements I and II together is not sufficient to answer the question.
e) If the data in both statements I and II together is necessary to answer the question.

KEY& EXPLANATIONS

1) c; Follow BODMAS rule to solve this question, as per the order given below,
Step - 1
Parts of an equation enclosed in 'Brackets' must be solved first, and in the bracket,
Step - 2
Any mathematical 'Of' or 'Exponent' must be solved next,
Step - 3
Last but not least, the parts of the equation that contain 'Addition' and 'Subtraction' should be calculated.
Given expression is,
[(6878 + 1333 − 8031) − (12.02 × 1.99 × 7.09)] × 2.532 = ?
Taking approximate values as,
12.02 ≈ 12, 1.99 ≈ 2, 7.09 ≈ 7, 2.532 ≈ 2.5
⇒ [180 − (12 × 2 × 7)] ×2.5 = ?
⇒ [180 − 168] × 2.5 = ?
⇒ 12 × 2.5 = ?
∴ ? = 30.

2) e; We can write following values as:
97.66 ≈ 98, 3.94 ≈ 4 and 4.14 ≈ 4, 2.90 ≈ 3, 44.80 ≈ 45 and 185.91 ≈ 186 and 3.01 ≈ 3
Given expression is,
⇒ (97.66 × 3.94 + 4.14) ÷ 2.90 + 44.80 = 185.91 + 3.01×?
⇒ (98 × 4 + 4) ÷ 3 + 45 = 186 + 3 ×?
⇒ (392 + 4) ÷ 3 + 45 = 186 + 3 ×?
⇒ 396 ÷ 3 + 45 = 186 + 3 × ?
⇒ 132 + 45 = 186 + 3 × ?
⇒ 177 = 186 + 3 × ?
⇒ ? × 3 = 177 − 186
⇒ ? = −9/3 ≈ −3.

3) d; $\frac{340}{34.023}\ \frac{46.98}{510}\ \frac{119}{94.01}$ = $\approx \frac{340}{34}\ \frac{47}{510}\ \frac{119}{94}$ ≈1.2

4) e; Given expression is,
331.80 ÷ 3.80 + 47.80 = 41.17% of 400 −?
We can write the given values as:
331.80 ≈ 332 and 3.80 ≈ 4
47.80 ≈ 48 and 41.17 ≈ 41
Then,
⇒ 332 ÷4 + 48= 41% of 400 − ?
⇒ 332÷4 +48=(41/100)×400− ?
⇒ 83 + 48 = (41 × 4) −?
⇒ 83 + 48 = 164 − ?
⇒ 131 = 164 − ?
⇒ ? = 164 − 131 ⇒ ? = 33

5) d; 237.76 × 14.98 + $?^3$ + 184.54 × 3.98 = 5036.75
Taking their approx. value;
238 × 15 + $?^3$ + 185 × 4 = 5037
⇒ 3570 + $?^3$ + 740 = 5037
⇒ 4310 + $?^3$ = 5037
⇒ $?^3$ = 5037 − 4310
⇒ $?^3$ = 727
∴ $\sqrt[3]{727} \approx \sqrt[3]{729} = 9$

6) b; ⇒ 1 + 2^2 + 10 = 15
⇒ 15 + 3^2 + 11 = 35
⇒ 35 + 4^2 + 12 = 63
⇒ 63 + 5^2 + 13 = 101
⇒ 101 + 6^2 + 14 = 151
Wrong number in series = 150.

7) e; ⇒ 2 × 1.5 + 1 = 4
⇒ 4 × 1.5 + 2 = 8
⇒ 8 × 1.5 + 3 = 15
⇒ 15 × 1.5 + 4 = 26.5
⇒ 26.5 × 1.5 + 5 = 44.75
∴ Wrong number in series = 45.75.

8) e; ⇒ 1 × 1 + 1 = 2
⇒ 2 × 1.5 + 2 = 5
⇒ 5 × 2 + 3 = 13
⇒ 13 × 2.5 + 4 = 36.5
⇒ 36.5 × 3 + 5 = 114.5
∴ Wrong number in series = 35.5.

9) b; ⇒ 1 + 2^2 + 2 = 7
⇒ 7 + 3^3 + 3 = 37
⇒ 37 + 4^2 + 4 = 57
⇒ 57 + 5^3 + 5 = 187
⇒ 187 + 6^2 + 6 = 229
∴ Wrong number in series = 188.

10) d; ⇒ 3 × 2^0 + 1 = 4
⇒ 4 × 2^1 + 2 = 10
⇒ 10 × 2^2 + 3 = 43
⇒ 43 × 2^3 + 4 = 348
⇒ 348 × 2^4 + 5 = 5573
∴ Wrong number in series = 5583.

11) a; Simple Interest = Rs. 216
To find : Principal = ?
Statement I:
Time = 3, Rate = 4% p.a
$S.I = \frac{\text{Principal} \quad \text{time} \quad \text{Rate}}{100}$
$\therefore \text{Principal} = \frac{216 \quad 100}{3 \quad 4} = 1800$
Thus, statement I provides the sufficient data.
Statement II:
After one year S.I = Rs. 72.
$\therefore 72 = \frac{\text{Principal} \quad 1 \quad \text{Rate}}{100}$
Thus, in statement II provide insufficient data.

12) c; Considering statement I,
Part filled by pipe A in 1 hr.
$= \frac{1}{60}$
Considering statement II,
The efficiency of pipe B = 1/3 × efficiency of pipe A
Considering both statements,
Part filled by Pipe B in 1 hr.
$= \frac{1}{3}\ \frac{1}{60} = \frac{1}{180}$
When both pipes are opened alternately for 1hour, after a period of 2hours, both pipes have worked for 1 hour each
Hence, part of cistern filled after two hours
$= \frac{1}{60} + \frac{1}{180} = \frac{1}{45}$
Thus, the cistern will be filled in 45 × 2 = 90 hrs
Both the statement are necessary to answer the question.

13) **c;** Let the length of the train be 'y' m
Considering statement I,
Speed of train = length of train/time taken to cross signal post $= \frac{y}{8}$ m/sec.
Considering statement II,
Another train is coming from opposite direction, the relative speed is the sum of the individual speeds
Speed of other train = 72 km/hr
$= 72 \times \frac{5}{18} = 20$ m/sec.
Using information from statement I,
Relative speed = $20 + \frac{y}{8}$
Time taken to cross the train
= sum of the lengths of train/relative speed
$\Rightarrow 6.4 = \frac{(y+100)}{\frac{20+y}{8}}$
⇒ 128 + 0.8y = y + 100
⇒ 0.2y = 28
$\Rightarrow y = \frac{28}{0.2} = 140$ m
Both the statement are necessary to answer the question.

14) a; Considering statement I:
Let the selling price = SP = 4x and cost price = CP = 3x
It is given that SP = Rs. 12000
Hence 4x = 12000
$\Rightarrow x = \frac{12000}{4}$
⇒ x = 3000 ⇒ 3x = 9000
Now that we know the CP and SP, where SP > CP (profit), we can place their values in the formula for profit percent.
$\therefore \text{Profit \%} = \frac{\text{Profit}}{\text{CP}} 100$
$= \frac{SP - CP}{CP} 100$
$= \frac{12000 - 9000}{9000} 100 = \text{Rs. } 33.33$
Profit percent can be found by using Statement I alone.
Considering statement II:
We do not know if its profit or loss. Hence we cannot find the percentage of it.
Profit or loss percent cannot be found by using statement II alone.
Statement I alone is sufficient, but statement II alone is not sufficient.