Q.1 If $x^4 + y^4 + x^2y^2 = 117$ and $x^2 + y^2 - xy = 3(4+\sqrt{3})$, then the value of $(x^2 + y^2)$ will be:

Ans

✗ 1. 9

✗ 2. $13\sqrt{3}$

✓ 3. 12

✗ 4. $6\sqrt{3}$

Question ID : **6549786591**
Status : **Answered**
Chosen Option : **3**

Q.2 A and B can complete a certain task in 24 days and 40 days, respectively. They worked together for 8 days. C completed the remaining task in 14 days. Working together, A and C will complete 75% of the same work in:

Ans

✗ 1. 15 days

✓ 2. 10 days

✗ 3. 12 days

✗ 4. 9 days

Question ID : **6549786576**
Status : **Answered**
Chosen Option : **2**

Q.3 The altitude AD of a triangle ABC is 9 cm. If AB = $6\sqrt{3}$ cm and CD = $3\sqrt{3}$ cm, then what will be the measure of $\angle A$?

Ans

✗ 1. 90°

✗ 2. 45°

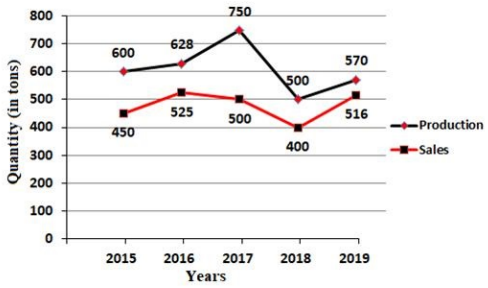
✓ 3. 60°

✗ 4. 30°

Question ID : **6549789524**
Status : **Answered**
Chosen Option : **3**

Q.4 The line graph shows the production (in tonnes) and the sales (in tonnes) of a company.

What percentage (approximately) of the total production of the company is the total sales of the company in all the years together? (correct to 2 decimal places)



Ans

✔ 1. 78.44

✘ 2. 68.12

✘ 3. 72.55

✘ 4. 75

Question ID : **6549789529**
Status : **Answered**
Chosen Option : **1**

Q.5 In ΔABC, AD is a median. If points E, F and G are midpoints of AD, AE and DE, respectively, then what will be the area ΔBFG?

Ans

✘ 1. $\frac{1}{2}$(Area ΔBGC)

✘ 2. $\frac{1}{8}$(Area ΔABC)

✘ 3. $\frac{1}{2}$(Area ΔABC)

✔ 4. $\frac{1}{4}$(Area ΔABC)

Question ID : **6549789516**
Status : **Answered**
Chosen Option : **4**

Q.6 If $8sin^2\theta + 2cos\theta = 5, 0° < \theta < 90°$, then the value of $tan^2\theta + sec^2\theta - sin^2\theta$ will be:

Ans

✔ 1. $\frac{305}{144}$

✘ 2. $\frac{431}{144}$

✘ 3. $\frac{153}{72}$

✘ 4. $\frac{23}{9}$

Question ID : **6549786596**
Status : **Answered**
Chosen Option : **1**

Q.7 In a circle with centre O, a 6 cm long chord is at a distance 4 cm from the centre. Find the length of the diameter.

Ans

✗ 1. 7 cm

✗ 2. 14 cm

✗ 3. 5 cm

✓ 4. 10 cm

Question ID : **6549789514**
Status : **Answered**
Chosen Option : **4**

Q.8 What is the product of the largest and the smallest possible values of m for which a number 5m83m4m1 is divisible by 9?

Ans

✗ 1. 40

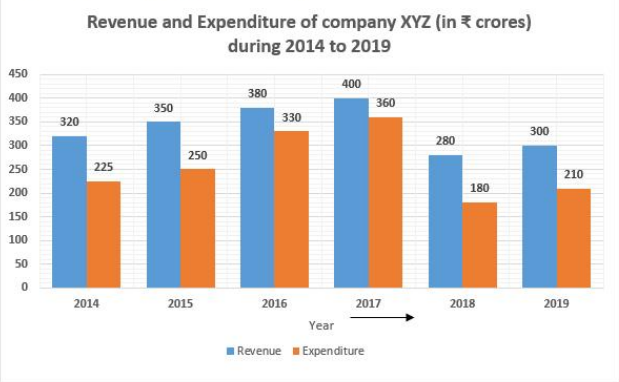
✗ 2. 10

✗ 3. 80

✓ 4. 16

Question ID : **6549789521**
Status : **Answered**
Chosen Option : **4**

Q.9 Study the given graph and answer the question that follows.



In which year was the percentage increase in the revenue as compared to that in its preceding year below 6%?

Ans

✗ 1. 2016

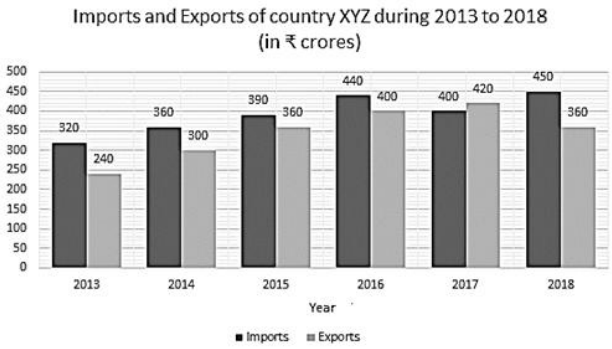
✓ 2. 2017

✗ 3. 2015

✗ 4. 2019

Question ID : **6549787811**
Status : **Answered**
Chosen Option : **2**

Q.10 Study the given graph and answer the question that follows.



What is the ratio of the total exports in 2014 and 2017 to the total imports in 2015 and 2018?

Ans

✗ 1. 5 : 6

✗ 2. 14 : 15

✓ 3. 6 : 7

✗ 4. 3 : 2

Question ID : **6549786597**
Status : **Answered**
Chosen Option : **3**

Q.11 One diagonal of a rhombus is $8\sqrt{3}$ cm. If the other diagonal is equal to its side, then the area (in cm^2) of the rhombus is:

Ans

✗ 1. $16\sqrt{3}$

✗ 2. $12\sqrt{3}$

✓ 3. $32\sqrt{3}$

✗ 4. $24\sqrt{3}$

Question ID : **6549786578**
Status : **Answered**
Chosen Option : **3**

Q.12 Sulekha bought 36 kg of sugar for ₹1,040. She sold it at a profit equal to the selling price of 10 kg of it. What is the selling price (in ₹) for 5 kg of sugar?

Ans

✗ 1. 220

✗ 2. 235

✗ 3. 215

✓ 4. 200

Question ID : **6549786582**
Status : **Answered**
Chosen Option : **4**

Q.13 The value of $\left(2\frac{1}{2} \div 1\frac{7}{8}\right) \div \left(9\frac{4}{9} \div 11\frac{1}{3} \text{ of } \frac{1}{8}\right) \text{ of } \frac{4}{3} \times 5\frac{1}{3} - \frac{9}{8} \div \frac{3}{4}$ is:

Ans

✗ 1. $\frac{1}{5}$

✗ 2. $-\frac{4}{5}$

✗ 3. $\frac{23}{10}$

✓ 4. $-\frac{7}{10}$

Question ID : **6549786593**
Status : **Answered**
Chosen Option : **4**

Q.14 An article is sold for ₹1,176 after two successive discounts of 30% and 16% on its list price. What is the difference (in ₹) between the list price and the selling price of the article?

Ans

✗ 1. 840

✗ 2. 740

✗ 3. 820

✓ 4. 824

Question ID : **6549786580**
Status : **Answered**
Chosen Option : **4**

Q.15 Chord AB and diameter CD of a circle meet at the point P, outside the circle when produced. If $PB = 8$ cm, $AB = 12$ cm and the distance of P from the centre of the circle is 18 cm, the radius (in cm) of the circle is closest to:

Ans

✓ 1. 12.8

✗ 2. 12.4

✗ 3. 13

✗ 4. 12

Question ID : **6549786586**
Status : **Answered**
Chosen Option : **1**

Q.16 Geeta scored 30% and failed by 50 marks, while Sandeep who scored 45% marks, got 25 marks more than the minimum marks required to pass the examination. How many marks did Vimal get if he scored 64% marks?

Ans

✓ 1. 320

✗ 2. 436

✗ 3. 256

✗ 4. 500

Question ID : **6549789510**
Status : **Answered**
Chosen Option : **1**

Q.17 Simplify the following expression. $(2x - 3y)^3 - 18xy(2x - 3y)$

Ans

✔ 1. $8x^3 - 72x^2y + 108xy^2 - 27y^3$

✘ 2. $8x^3 - 27y^3$

✘ 3. $8x^3 - 27y^3 - 36x^2y - 54xy^2$

✘ 4. $8x^3 + 108xy^2 - 72x^2y$

Question ID : **6549789518**
Status : **Answered**
Chosen Option : **1**

Q.18 If $cosec\theta = \frac{\sqrt{5}}{2}$, then what will be the value of $(sec\theta + tan\theta - cot\theta sin\theta)$?

Ans

✘ 1. $2 + \frac{\sqrt{5}}{2}$

✘ 2. $2 + \frac{2\sqrt{5}}{5}$

✘ 3. $2 + \sqrt{5}$

✔ 4. $2 + \frac{4\sqrt{5}}{5}$

Question ID : **6549786594**
Status : **Answered**
Chosen Option : **4**

Q.19 In $\triangle ABC$, $\angle A = 135°, CA = 5\sqrt{2}$ cm and $AB = 7$ cm. E and F are the midpoints of sides AC and AB, respectively.
The length of EF (in cm) is:

Ans

✘ 1. 5

✘ 2. 6

✘ 3. 5.5

✔ 4. 6.5

Question ID : **6549786588**
Status : **Not Attempted and Marked For Review**
Chosen Option : **--**

Q.20 If $x^2 - 6\sqrt{3}x + 1 = 0$, then the value of $x^3 + \frac{1}{x^3}$ will be:

Ans

1. $234\sqrt{3}$ ✗
2. $630\sqrt{3}$ ✓
3. $666\sqrt{3}$ ✗
4. $216\sqrt{3}$ ✗

Question ID : **6549786590**
Status : **Answered**
Chosen Option : **2**

Q.21 Anamika paid ₹4,965 as compound interest on a loan of ₹15,000 after 3 years when compounded annually. Suman took a loan of ₹10,000 at the same rate on simple interest. How much interest did Suman pay after 3 years?

Ans

1. ₹3,000 ✓
2. ₹3,500 ✗
3. ₹4,500 ✗
4. ₹4,000 ✗

Question ID : **6549789513**
Status : **Answered**
Chosen Option : **1**

Q.22 A car covers a distance of 48 km at a speed of 40 km/h and another 52 km with a speed of 65 km/h. What is the average speed of the car (in km/h) for the total distance covered?

Ans

1. 50 ✓
2. 52 ✗
3. 53 ✗
4. 52.5 ✗

Question ID : **6549789506**
Status : **Answered**
Chosen Option : **1**

Q.23 A sum of money is divided among A, B and C in the ratio 2 : 3 : 7, respectively. If the share of B is ₹15,000, then what will be the difference in the shares of B and C?

Ans

1. ₹20,000 ✓
2. ₹18,000 ✗
3. ₹50,000 ✗
4. ₹15,000 ✗

Question ID : **6549789512**
Status : **Answered**
Chosen Option : **1**

Q.24 The average weight of 30 persons of group A is 3 kg more than the average weight of 25 persons of group B. The average weight of 25 persons of group B is 2.5 kg more than the average weight of 20 persons of group C. If the total weight of 30 persons of group A is 1725 kg, then what will be the average weight of the persons of group A and group C taken together (in kg)?

Ans

✔ 1. 55.3

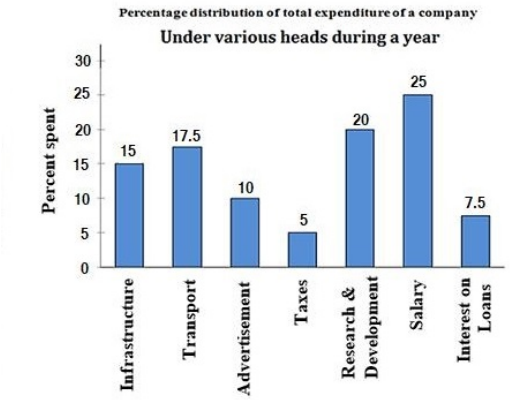
✘ 2. 55.1

✘ 3. 55

✘ 4. 55.4

Question ID : **6549789508**
Status : **Not Attempted and Marked For Review**
Chosen Option : **--**

Q.25 Study the given graph and answer the question that follows.



The expenditure on Interest on Loans is by what percentage more than the expenditure on Taxes?

Ans

✔ 1. 50%

✘ 2. 40%

✘ 3. 25%

✘ 4. 30%

Question ID : **6549788214**
Status : **Answered**
Chosen Option : **1**