SSC CPO
Exam Papers

Staff Selection Commission

SSC CPO Exam Paper - 2017 "held on 02 July 2017" Shift-2

(Quantitative Aptitude)

QID : 301 - If P = $(\sqrt{7} - \sqrt{6})/(\sqrt{7} + \sqrt{6})$, then what is the value of P + (1/P)?

Options:
1) 12
2) 13
3) 24
4) 26
Correct Answer: 26

QID : 302 - Which value among 3^{200}, 2^{300} and 7^{100} is the largest?

Options:
1) 3200
2) 2300
3) 7100
4) All are equal
Correct Answer: 3200

QID : 303 - What is the value of $3^2 + 7^2 + 11^2 + 13^2 + 17^2 - 1^2 - 5^2 - 9^2 - 11^2 - 15^2$?

Options:
1) 5

2) 72

3) 92

4) 184
Correct Answer: 184

QID : 304 -

What is the value of $\dfrac{(0.7)^3 - (0.4)^3}{(0.7)^2 + 0.7 \times 0.4 + (0.4)^2}$?

$\dfrac{(0.7)^3 - (0.4)^3}{(0.7)^2 + 0.7 \times 0.4 + (0.4)^2}$ का मान क्या है?

Options:
1) 0.3

2) 0.4

3) 0.7

4) 1.1
Correct Answer: 0.3

QID : 305 - How many positive factors of 40 are there?

Options:
1) 3
2) 4
3) 6
4) 8
Correct Answer: 8

QID : 306 - A is 20% more efficient than B. If B alone can complete a piece of work in 12 days, then A alone can complete the same work in how many days?

Options:
1) 10

2) 12

3) 14

4) 16
Correct Answer: 10

QID : 307 - A and B together can complete a work in 10 days. They started together but A left after 2 days and the remaining work was completed by B in 12 days. In how many days can A complete the entire work while working alone?

Options:
1) 15
2) 20
3) 30
4) 45
Correct Answer: 30

QID : 308 - What will be the net discount (in percentage) after two successive discounts of 50% and 50%?

Options:
1) 85
2) 75
3) 100
4) 95
Correct Answer: 75

QID : 309 - An article is sold for Rs 5330 after a discount of 18%. What is the marked price (in Rs) of the article?

Options:
1) 6250

2) 6450

3) 6800

4) 6500
Correct Answer: 6500

QID : 310 - Raman, Rohit and Raja are partners and invest in a business. Raman invests 1/4th of total and Rohit invest 1/3th of the total. What is the ratio of profit of Raman, Rohit and Raja respectively?

Options:
1) 4 : 3 : 1

2) 3 : 4 : 4

3) 3 : 4 : 5

4) 4 : 3 : 5
Correct Answer: 3 : 4 : 5

QID : 311 - If a - b : b - c : c - d = 1 : 2 : 3, then what is the value of (a + d) : c?

Options:
1) 1 : 2
2) 2 : 1
3) 4 : 1
4) 3 : 1
Correct Answer: 2 : 1

QID : 312 - The average age of Rustam and Preetam is 39 years. The average age of Preetam and Geetam is 28 years. The average age of Rustam and Geetam is 34 years. What will be the age (in years) of the youngest of the three after 10 years?

Options:
1) 13

2) 23

3) 33

4) 43
Correct Answer: 33

QID : 313 - The average age of 6 members of a family is 25 years. If the youngest member of the family is 15 years old, then what was the average age (in years) of the family at the time of the birth of the youngest member?

Options:
1) 9

2) 12

3) 18

4) 24
Correct Answer: 12

QID : 314 - On an article the profit is 230% of the cost price. If the cost price increases by 50% but the selling price remains constant, then what is the new profit percentage?

Options:
1) 54.54
2) 80
3) 120
4) 150
Correct Answer: 120

QID : 315 - A trader buys two articles for Rs 4000 each. While selling if he gains 12.5% on one and losses 20% on the other, then what will be the overall loss percentage?

Options:
1) 2.5
2) 3.75
3) 5
4) 5.25
Correct Answer: 3.75

QID : 316 - X is 30% more than Y and 25% less than Z. If value of Y is Rs 300, then what is the value (in Rs) of Z ?

Options:
1) 390
2) 400
3) 470
4) 520
Correct Answer: 520

QID : 317 - The price of motor cycle depreciates every year by 10%. If the value of the motor cycle after 3 years will be Rs 36450, then what is the present value (in Rs) of the motor cycle?

Options:
1) 45000

2) 50000

3) 48000

4) 51000
Correct Answer: 50000

QID : 318 - Two boat are travelling with speed of 36 km/hr and 54 km/hr respectively towards each other. What is the distance (in metres) between the two boats one second before they collide?

Options:
1) 10

2) 15
3) 25
4) 5
Correct Answer: 25

QID : 319 - A car left 3 minutes early than the scheduled time and in order to reach the destination 126 km away in time, it has to slow its speed by 6 km/h from the usual. What is the usual speed (in km/hr) of the car?

Options:
1) 56
2) 63
3) 94.5
4) 126
Correct Answer: 126

QID : 320 - If a certain sum becomes 3 times in 6 years at compound interest, then in how many years, it will become 81 times?

Options:
1) 81

2) 162

3) 27

4) 24
Correct Answer: 24

QID : 321 - What is the simple interest on Rs 5400 in 5 years at the rate of 12% per annum?
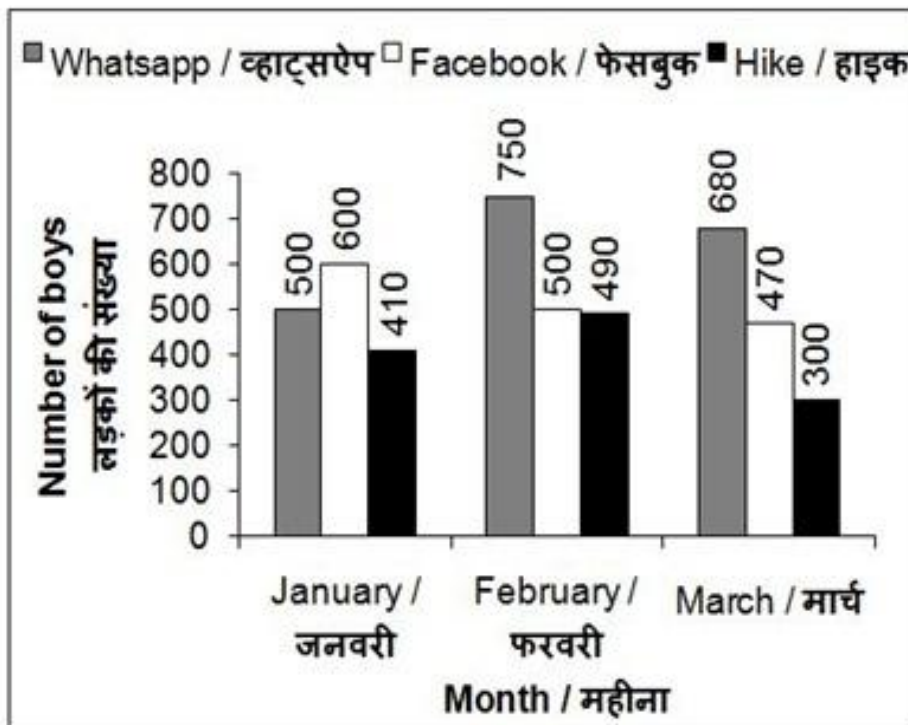
Options:
1) 2700
2) 2950
3) 3120
4) 3240
Correct Answer: 3240

QID : 322 -

The bar graph given below represents the number of boys in a school using three apps for three months.

नीचे दिए गए दण्ड चित्र में एक विद्यालय में तीन महीनों के लिए तीन ऐप्स प्रयोग करने वाले लड़कों की संख्या को दर्शाया गया है।

What is the total number of boys using the three apps in month of March?
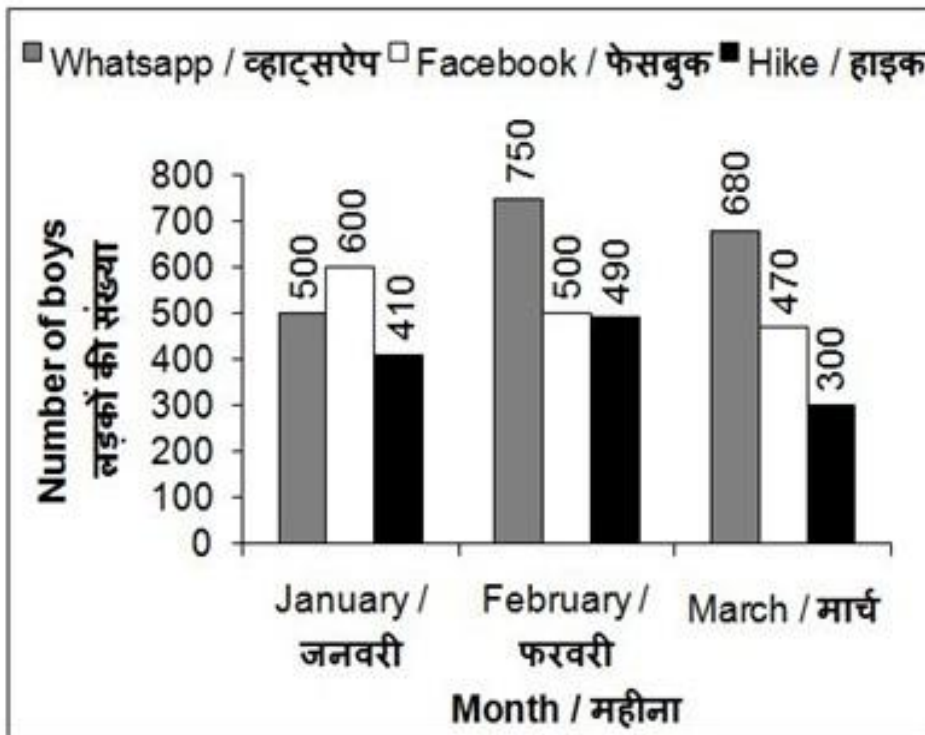
Options:
1) 1420

2) 1480

3) 1450

4) 1500
Correct Answer: 1450

QID : 323 -

The bar graph given below represents the number of boys in a school using three apps for three months.

नीचे दिए गए दण्ड चित्र में एक विद्यालय में तीन महीनों के लिए तीन ऐप्स प्रयोग करने वाले लड़कों की संख्या को दर्शाया गया है।

Number of boys using Whatsapp in February is how much percent more than the number of boys using Facebook in February?
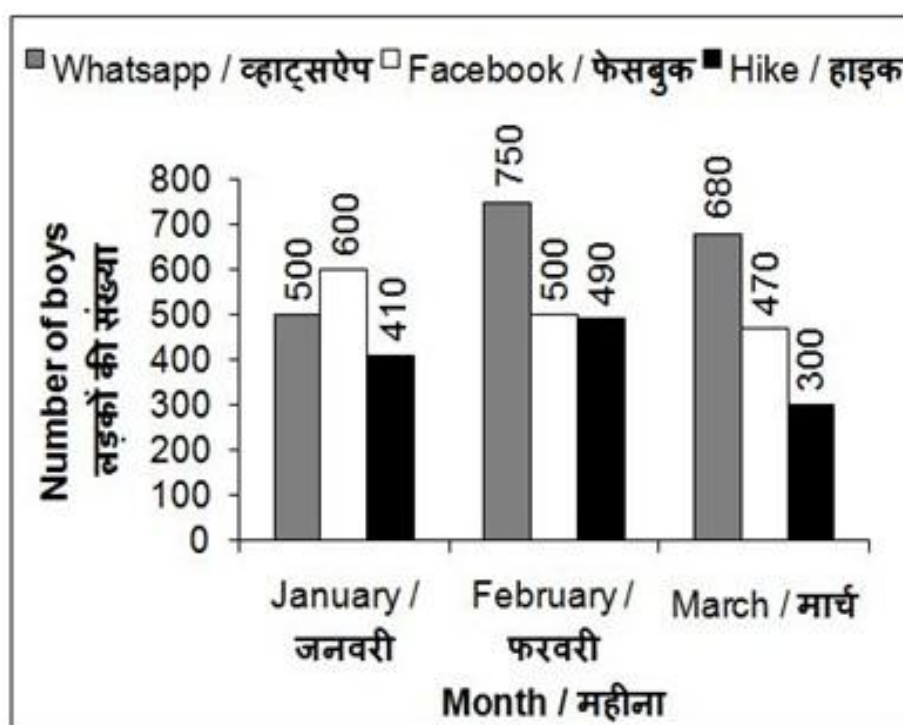
Options:
1) 50
2) 33.33
3) 66.66
4) 44.22
Correct Answer: 50

QID : 324 -

The bar graph given below represents the number of boys in a school using three apps for three months.

नीचे दिए गए दण्ड चित्र में एक विद्यालय में तीन महीनों के लिए तीन ऐप्स प्रयोग करने वाले लड़कों की संख्या को दर्शाया गया है।

What is the percentage decrese in number of boys using Facebook from January to February?
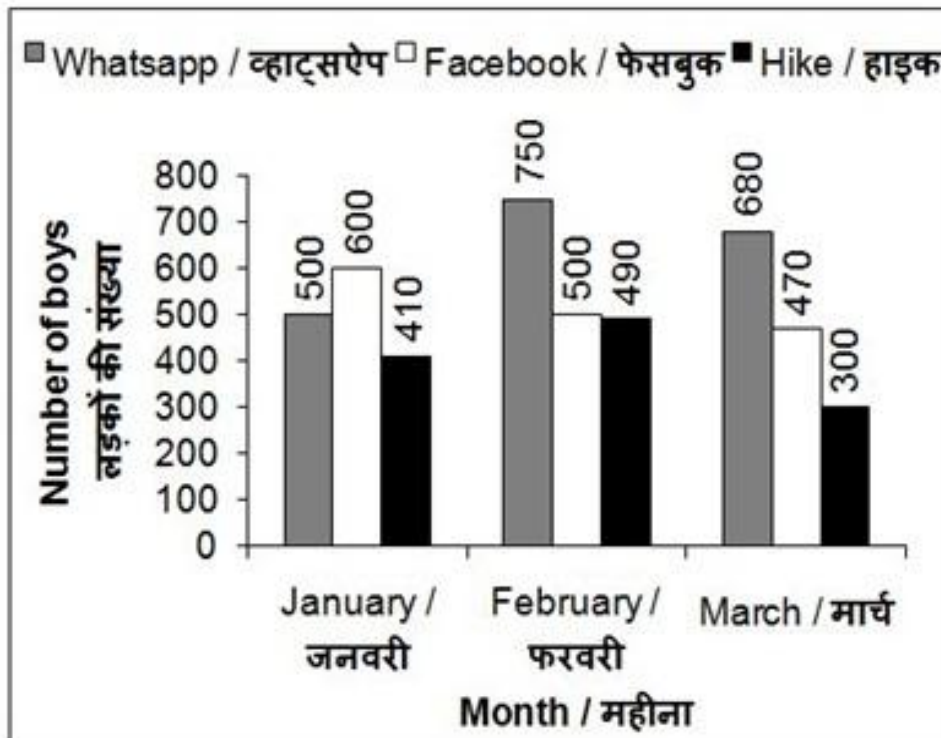
Options:
1) 26.66

2) 20

3) 21.33

4) 16.66

Correct Answer: 16.66

QID : 325 -

The bar graph given below represents the number of boys in a school using three apps for three months.

नीचे दिए गए दण्ड चित्र में एक विद्यालय में तीन महीनों के लिए तीन ऐप्स प्रयोग करने वाले लड़कों की संख्या को दर्शाया गया है।

Number of boys using Whatsapp in March is what percent of number of boys using Facebook in February?

Options:
1) 126.47
2) 136
3) 128

4) 131.3
Correct Answer: 136

QID : 326 - The perimeter of base of a right circular cone is 132 cm. If the height of the cone is 72 cm, then what is the total surface area (in cm2) of the cone?

Options:
1) 6600
2) 6336
3) 4224
4) 5784
Correct Answer: 6336

QID : 327 - A solid metallic sphere of radius 14 cm is melted and recast into a cone with diameter of the base as 14 cm. What is the height (in cm) of the cone?

Options:
1) 236

2) 64

3) 112

4) 224
Correct Answer: 224

QID : 328 - The radius of a wheel is 21 cm what is the distance (in cm) travelled by the wheel in 10 revolutions?

Options:
1) 660

2) 1320

3) 1980

4) 2640
Correct Answer: 1320

QID : 329 - Three circles of radius 21 cm are placed in such a way that each circle touches the other two. What is the area of the portion enclosed by the three circles?

Options:
1) 441√3 - 693

2) 882√3 - 693

3) 882√3 - 462

4) 441√3 - 462
Correct Answer: 441√3 - 693

QID : 330 - If the perimeter of a square is 80 cm, then what is the diagonal of the square (in cm)?

Options:
1) 20√2
2) 40√2
3) 80√2
4) 20
Correct Answer: 20√2

QID : 331 - If $(1/x) + (1/y) + (1/z) = 0$ and $x + y + z = 11$, then what is the value of $x^3 + y^3 + z^3 - 3xyz$?

Options:
1) 1331

2) 2662

3) 3993

4) 14641
Correct Answer: 1331

QID : 332 -

What is the simplified value of

$$\left[\frac{\left(1+x^3\right)}{\left(x^2-1\right)} \div \frac{\left(x^2+1-x\right)}{\left(x+1\right)} \right] \times \left(x-1\right) \ ?$$

$$\left[\frac{\left(1+x^3\right)}{\left(x^2-1\right)} \div \frac{\left(x^2+1-x\right)}{\left(x+1\right)} \right] \times \left(x-1\right) \ \text{का सरलीकृत मान}$$

क्या है?

Options:
1) 1

2) x

3) x + 1

4) 1/(x - 1)
Correct Answer: x + 1

QID : 333 -

If $\dfrac{x + \sqrt{x^2 - 1}}{x - \sqrt{x^2 - 1}} + \dfrac{x - \sqrt{x^2 - 1}}{x + \sqrt{x^2 - 1}} = 62$, then what is the value of x ($x < 0$)?

यदि $\dfrac{x + \sqrt{x^2 - 1}}{x - \sqrt{x^2 - 1}} + \dfrac{x - \sqrt{x^2 - 1}}{x + \sqrt{x^2 - 1}} = 62$ है, तो x ($x < 0$) का मान क्या होगा?

Options:
1) -4

2) 0

3) 3

4) 16
Correct Answer: -4

QID : 334 -

If $x^2 - 3x + 1 = 0$, then what is the value of $x^2 + \dfrac{1}{x^2}$?

यदि $x^2 - 3x + 1 = 0$ हो, तो $x^2 + \dfrac{1}{x^2}$ का मान क्या है?

Options:
1) 3

2) 7

3) 9

4) 11
Correct Answer: 7

QID : 335 -

If $x^4 + \dfrac{1}{x^4} = 98$ and $x > 1$, then what is the value of $x - \dfrac{1}{x}$?

यदि $x^4 + \dfrac{1}{x^4} = 98$ तथा $x > 1$ हो, तो $x - \dfrac{1}{x}$ का मान क्या है?

Options:
1) 2

2) 2√2

3) √5

4) √3

Correct Answer: 2√2

QID : 336 - In ΔABC, ∠BCA = 90°, AC = 24 cm and BC = 10 cm. What is the radius (in cm) of the circum-circle of ΔABC?

Options:
1) 12.5
2) 13
3) 25
4) 26
Correct Answer: 13

QID : 337 - A chord of length 7 cm subtends an angle of 60° at the centre of a circle. What is the radius (in cm) of the circle?

Options:
1) 7√2
2) 7√3
3) 7
4) 14
Correct Answer: 7

QID : 338 - If ΔPQR is right angled at Q, PQ = 12 and ∠PRQ = 30°, then what is the value of QR?
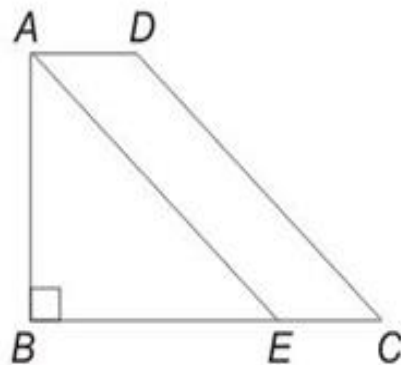
Options:

1) 12√3

2) 12√2

3) 12

4) 24

Correct Answer: 12√3

QID : 339 -

In the given figure, area of isosceles triangle *ABE* is 72 cm² and *BE* = *AB* and *AB* = 2 *AD*, *AE*||*DC*, then what is the area (in cm²) of the trapezium *ABCD*?

दी गई आकृति में, समद्विबाहु त्रिभुज *ABE* का क्षेत्रफल 72 से.मी.² है तथा *BE* = *AB* तथा *AB* = 2 *AD*, *AE*||*DC* है, तो समलम्ब चतुर्भुज *ABCD* का क्षेत्रफल (से.मी.² में) क्या होगा?

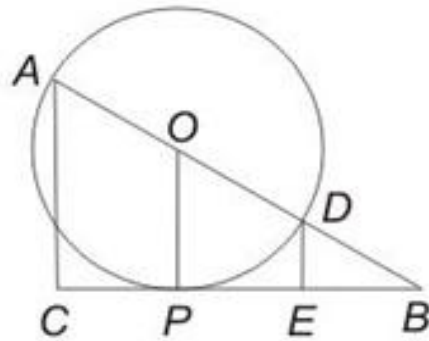

Options:

1) 108

2) 124

3) 136

4) 144

Correct Answer: 144

QID : 340 -

In the given figure, *AC* and *DE* are perpendicular to tangent *CB*. *AB* passes through centre *O* of the circle whose radius is 20 cm. If *AC* = 36 cm, what is the length (in cm) of *DE*?

दी गई आकृति में, स्पर्श रेखा *CB* पर *AC* तथा *DE* लम्ब है। रेखा *AB* वृत्त के केंद्र बिंदु *O* से गुजरती है जिसकी त्रिज्या 20 से.मी. है। यदि *AC* की लम्बाई 36 से.मी. है, तो *DE* की लम्बाई (से.मी. में) क्या होगा?

Options:
1) 4

2) 6

3) 2

4) 8
Correct Answer: 4

QID : 341 -If $4\sin^2 \theta - 3 = 0$ and θ is acute, then what is the value of $(\cot^2 \theta + \tan^2 \theta)$?

Options:
1) 2
2) 0
3) 10/3
4) 6
Correct Answer: 10/3

QID : 342 -

If $\dfrac{\cos\theta}{1+\sin\theta} + \dfrac{\cos\theta}{1-\sin\theta} = 4$ and θ is acute, then what is the value (in degrees) of θ?

यदि $\dfrac{\cos\theta}{1+\sin\theta} + \dfrac{\cos\theta}{1-\sin\theta} = 4$ तथा θ न्यूनकोण है, θ का मान (डिग्री में) क्या है?

Options:
1) 30

2) 45

3) 60

4) 90

Correct Answer: 60

QID : 343 -

If $\dfrac{1}{\sin\theta + \csc\theta} = \dfrac{1}{2}$, then what is the value of $\sin^{100}\theta + \csc^{100}\theta$?

यदि $\dfrac{1}{\sin\theta + \csc\theta} = \dfrac{1}{2}$ है, तो $\sin^{100}\theta + \csc^{100}\theta$ का मान क्या है?

Options:
1) -1

2) 0

3) 1

4) 2

Correct Answer: 2

QID : 344 -

What is the value of

$$\frac{\tan^2 25°}{\csc^2 65°} + \frac{\cot^2 25°}{\sec^2 65°} + 2\tan 20° \tan 45° \tan 70°?$$

$$\frac{\tan^2 25°}{\csc^2 65°} + \frac{\cot^2 25°}{\sec^2 65°} + 2\tan 20° \tan 45° \tan 70°$$ का

मान क्या है?

Options:
1) 1

2) 2

3) 3

4) 4
Correct Answer: 3

QID : 345 - If cosec θ + cosec^2 θ = 1, then what is the value of (cot^{12} θ - 3 cot^{10} θ + 3 cot^8 θ - cot^6 θ)?

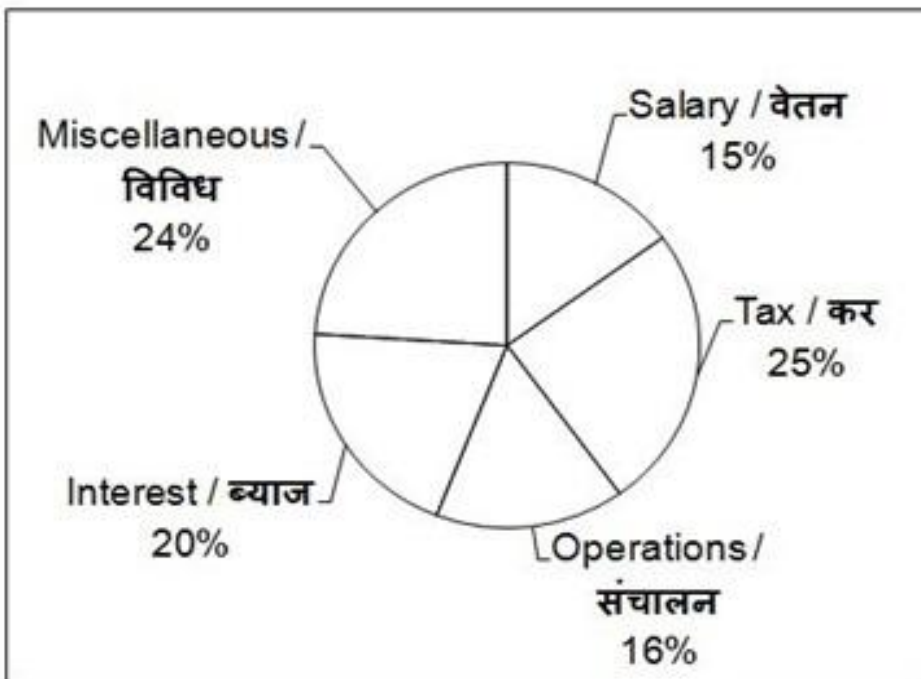**Options:**
1) -2

2) -1

3) 0

4) 1
Correct Answer: 1

QID : 346 -

The pie chart given below shows the percentage distribution of annual expenditure on various items of a company. The annual expenditure of the company is Rs 72 crores.

नीचे दिए गए वृत्त चित्र में एक कंपनी के विभिन्न मदों पर हुए वार्षिक व्यय के प्रतिशत वितरण को दर्शाया गया है। कंपनी का वार्षिक व्यय 72 करोड़ रु. है।

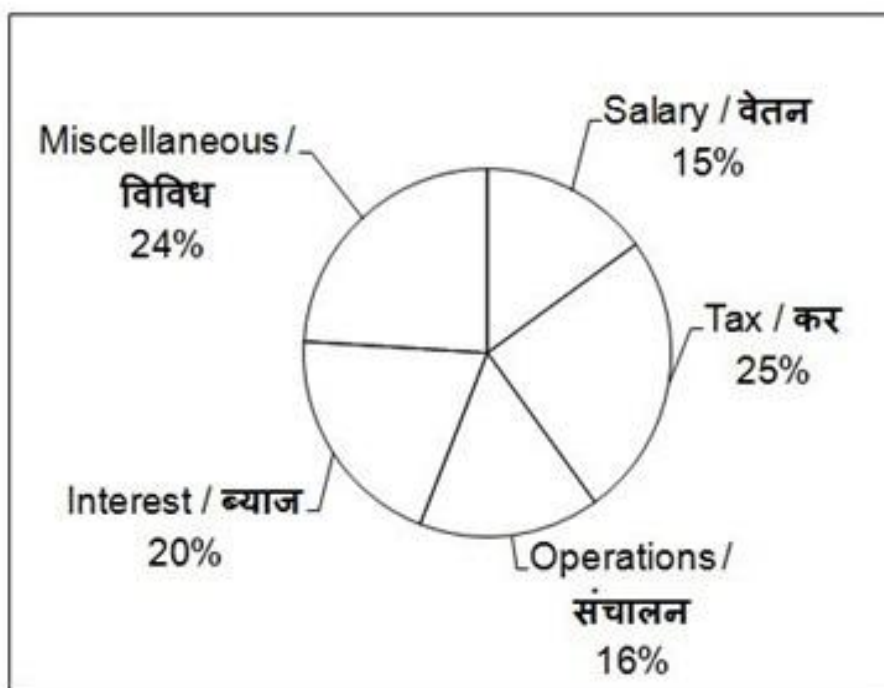how much is the expenditure (in Rs crores) on Operations annually?

Options:
1) 1.52

2) 7.14

3) 11.52

4) 1.152
Correct Answer: 11.52

QID : 347 -

The pie chart given below shows the percentage distribution of annual expenditure on various items of a company. The annual expenditure of the company is Rs 72 crores.

नीचे दिए गए वृत्त चित्र में एक कंपनी के विभिन्न मदों पर हुए वार्षिक व्यय के प्रतिशत वितरण को दर्शाया गया है। कंपनी का वार्षिक व्यय 72 करोड़ रु. है।

What is the monthly expenditure (in Rs crores) on Miscellaneous by the company?
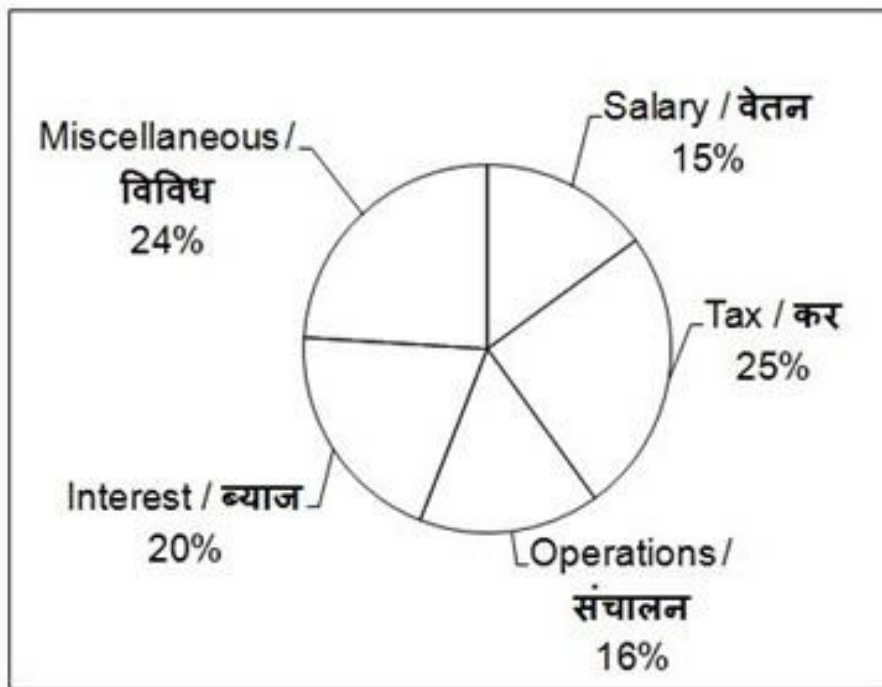
Options:
1) 14.4

2) 1.44

3) 1.21

4) 1.69

Correct Answer: 1.44

QID : 348 -

The pie chart given below shows the percentage distribution of annual expenditure on various items of a company. The annual expenditure of the company is Rs 72 crores.

नीचे दिए गए वृत्त चित्र में एक कंपनी के विभिन्न मदों पर हुए वार्षिक व्यय के प्रतिशत वितरण को दर्शाया गया है। कंपनी का वार्षिक व्यय 72 करोड़ रु. है।

If 5% of Miscellaneous is spent on research of nanotubes, then how much is spent (in Rs crores) on research of nanotubes annually?

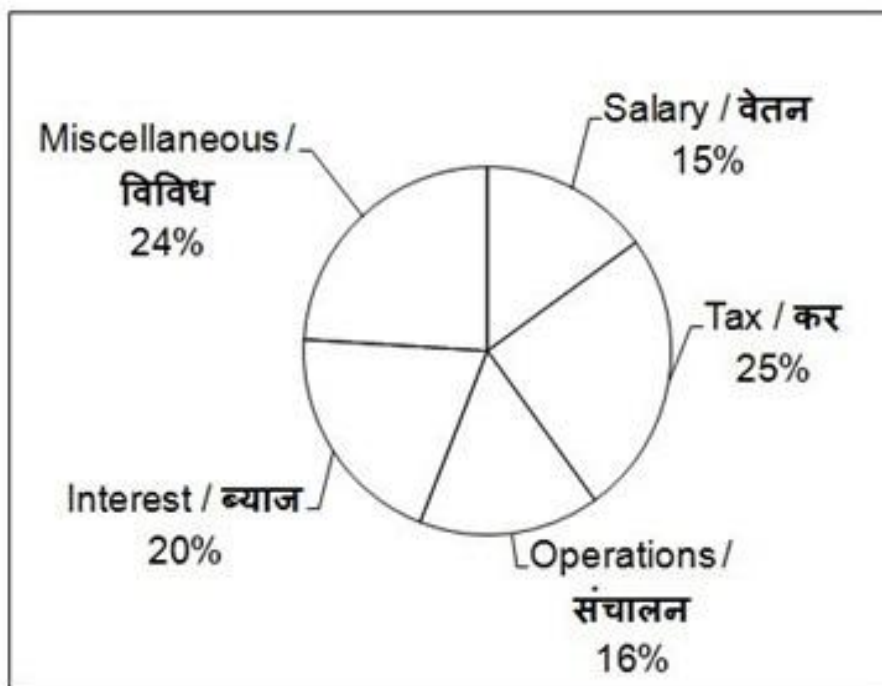**Options:**

1) 0.864
2) 0.362
3) 0.544

4) 0.962
Correct Answer: 0.864

QID : 349 -

The pie chart given below shows the percentage distribution of annual expenditure on various items of a company. The annual expenditure of the company is Rs 72 crores.

नीचे दिए गए वृत्त चित्र में एक कंपनी के विभिन्न मदों पर हुए वार्षिक व्यय के प्रतिशत वितरण को दर्शाया गया है। कंपनी का वार्षिक व्यय 72 करोड़ रु. है।

By what percentage is the total expenditure on Interest and Miscellaneous more that the total expenditure on Tax and Salary?
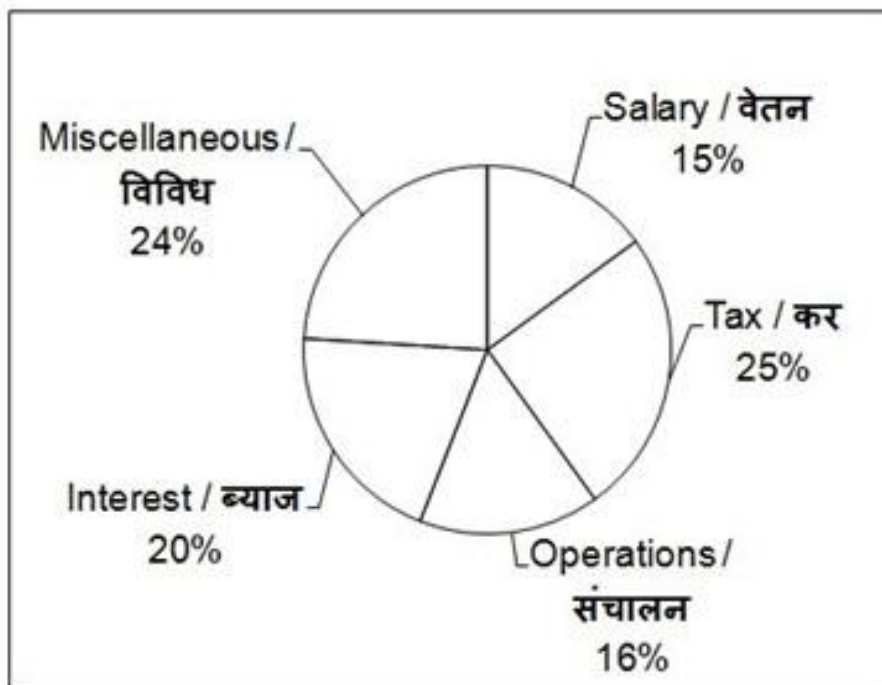
Options:
1) 20

2) 15

3) 8

4) 10
Correct Answer: 10

QID : 350 -

The pie chart given below shows the percentage distribution of annual expenditure on various items of a company. The annual expenditure of the company is Rs 72 crores.

नीचे दिए गए वृत्त चित्र में एक कंपनी के विभिन्न मदों पर हुए वार्षिक व्यय के प्रतिशत वितरण को दर्शाया गया है। कंपनी का वार्षिक व्यय 72 करोड़ रु. है।

Total amount spent on Raw material is 50% of the total amount spent on Interest. If the ratio of amount of expenditure on Rent and Raw material is 1 : 2 respectively, then what will be the amount (in Rs) spent on Rent annually?

Options:

1) 28000000

2) 36000000

3) 40000000

4) 32000000

Correct Answer: 36000000