Quantitative Aptitude Questions And Answers

Question 1.A & B together finish a job in 24 days, while A, B & C together can finish the same job in 8 days. C alone will finish the job in

a. 12 days

b. 14 days

c. 16 days

d. 24 days

Ans. 12 days

Explanation: The efficiency of (A + B) = 100/24 = (25/6)%;

The efficiency of (A + B + C) = 100/8 = (25/2)%;

The efficiency of C = 25/2 – 25/6 = (50/6)%;

Hence, C can alone finish this job in = 100/(50/6) = 12 days;

Question 2.Area of the circle inscribed in a square of diagonal $6\sqrt{2}$ cm (in sq. cms) is

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a. 9 Π

b. 6 Π

c. 3 Π

d. 9√2Π

Ans. 9 Π

Explanation: Diagonal of square = side* √2; => Side = 6 cms;

Side = Diameter = 6 cms; => radius = 3 cms;

Hence, the area of circle = 9π sq. cms

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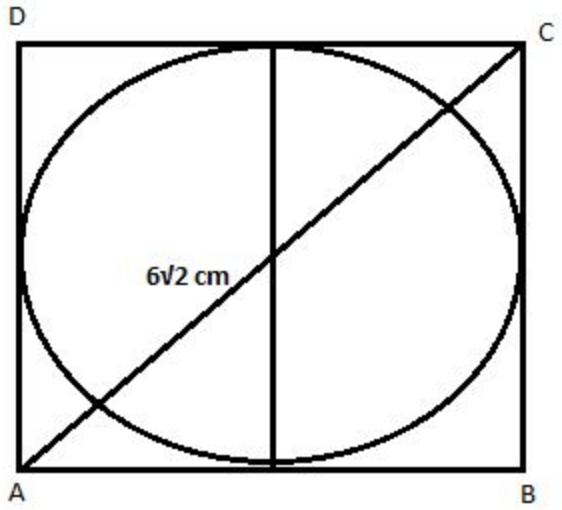

Question 3.The original price of a TV set is Rs. 6,000. If the price is discounted by 20% and then raised by 10% for service contract, the price charged by the shopkeeper is

a. Rs. 5400

b. Rs. 5280

c. Rs. 5100

d. Rs.4200

Ans. Rs. 5280

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Explanation: Original price = Rs. 6000;

Price after discount = 6000 – 1200 = Rs. 4800;

Price after raising service contract = 4800 + 480 = Rs. 5280

Question 4.A certain sum of money was divided between A, B and C in the ratio 5:6:9. If A received Rs. 450 the sum divided was

a. 2000

b. 1800

c. 2250

d. 1000

Ans. 1800

Explanation: Suppose the received money by A, B, and C is respectively 5x, 6x, and 9x.

5x = 450; => x = 90;

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Hence, the total money = 20x = 20*90 = Rs. 1800;

Question 5.By selling a bag at Rs. 230, profit of 15% is made. The selling price of the bag, when it is sold at 20% profit would be

a. Rs.250

b. Rs.205

c. Rs.240

d. Rs.200

Ans. Rs.240

Explanation: Suppose the Cost price of the bag= Rs. x;

Hence, x + 0.15x = 230; => x = Rs. 200;

Selling price after selling on 20% = 200 + 20% of 200 = Rs. 240

Question 6.The weights of two iron balls are 3.5 kg and 7.5 kg. What is the percentage weight of the 1st ball with respect to 2nd ball.

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a. $46\frac{2}{3}\%$

b. 35%

c. $46\frac{1}{3}\%$

d. 45%

Ans. $46\frac{2}{3}\%$

Explanation: The required percentage = 3.5*100/7.5 = (140/3)%.

Question 7.A Bus travels at the speed of 36 km/h, then the distance covered by it in one second is

a. 10 m

b. 15 m

c. 12.5 m

d. 13.5 m

Ans. 10 m

Explanation: Distance traveled in one second = (36* 1000 meter)/(60 * 60 seconds); => 10 m

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Question 8.

$$\text{The value of } \frac{a}{a-b} + \frac{b}{b-a} \text{ is}$$

a. (a+b)/(a-b)

b. -1

c. 2ab

d. 1

Ans. 1

Explanation:

= a/(a-b) – b/(a-b);

=(a-b)/(a-b) =1;

Question 9.The value of (1 - √2 + (√2 - √3 + (√3 - √4 + ... + (√15 - √16) is

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a. 0

b. 1

c. -3

d. 4

Ans. -3

Explanation:

= (1 - √2 + (√2 - √3 + (√3 - √4 + ... + (√15 - √16);

= 1-√16 = 1 – 4= -3;

Question 10.∆ABC and ∆DEF are two similar triangles and the perimeter of ∆ABC and ∆DEF are 30 cm and 18 cm respectively. If length of DE = 36 cm, then length of AB is

a. 60 cm

b. 40 cm

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c. 45 cm

d. 50 cm

Ans. 60 cm

Explanation: As per the property of similar triangle,

perimeter of ∆ABC/ perimeter of ∆DEF = AB/DE;]

30/18 = AB/36; => AB = 60 cms

Question 11.If the length of a chord of a circle is equal to that of the radius of the circle, then the angle subtended, in radians, at the center of the circle by chord is

a. 1

b. ∏/2

c. ∏/3

d. ∏/4

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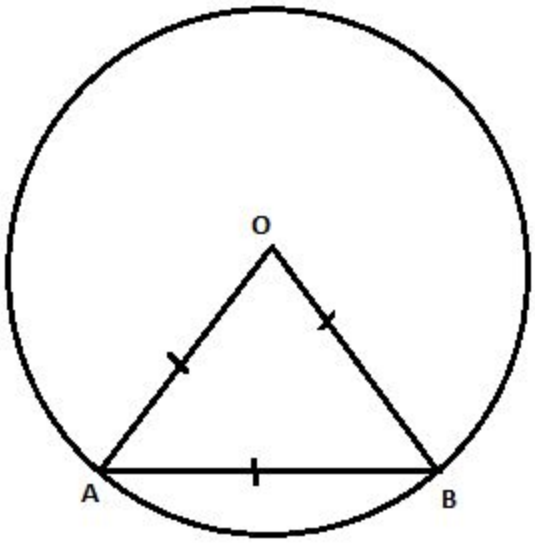
Ans. ∏/3

Explanation: From the given figure below, we can see that the triangle OAB is a equilateral triangle. Hence, each angle of this triangle will of 60 degrees, which in radian will be equal to ∏/3.



Question 12.The value of $(\sec^2 45 - \cot^2 45) - (\sin^2 30 + \sin^2 60)$ is

a. 1

b. 2√3

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c. 0

d. $1/\sqrt{2}$

Ans. 0

Explanation: Put the numeric values of these trigonometric ratios-

$= (\sqrt{2})^2 - 1 - [(1/2)^2 + (\sqrt{3}/2)^2];$

After simplifying the above expression,

$= 0;$

Question 13.The average salary of male employees in a firm was Rs. 5200 and that of females was Rs. 4200. The mean salary of all the employees was Rs. 5000. What is the % of female employees?

a. 80%

b. 20%

c. 40%

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d. 30%

Ans. 20%

Explanation: Suppose the number of male employees = x; and the number of female employees = y;

5200*x + 4200*y = 5000*(x + y);

200x = 800y; =>x = 4y;

Hence, % of female employees = y*100/(x+y) = 100/5 = 20%.

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Question 14. If 4x= √5+2, then find the value of x-(1/16x)?

a. 1

b. -1

c. 4

d. 2√5

Ans. 1

Explanation:

$4x = \sqrt{5} + 2;$

squaring both sides–

$16x^2 = 5 + 4 + 4\sqrt{5};$

$16x^2 = 9 + 4\sqrt{5};$

$16x = 4\sqrt{5} + 8;$

$x - \frac{1}{16x} = \frac{16x^2 - 1}{16x};$

putting the above values in the expression –

$x - \frac{1}{16x} = \frac{4\sqrt{5} + 8}{4\sqrt{5} + 8} = 1$

Question 15.The cube of 105 is

a. 1157625

b. 1175625

c. 1185625

d. 1158625

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Ans. 1157625

Explanation: $(105)^3 = (100 + 5)^3$;

$= (100)^3 + (5)^3 + 3*100*5(100 + 5)$;

$= 1000000 + 125 + 150000 + 7500$;

$= 1157625$;

Question 16.In $\triangle ABC$, $\angle B$ is right angle, D is the midpoint of the side AC. If AB = 6 cm, BC = 8cm, then the length of BD is

a. 4 cm

b. 5 cm

c. 8 cm

d. 12 cm

Ans. 5 cm

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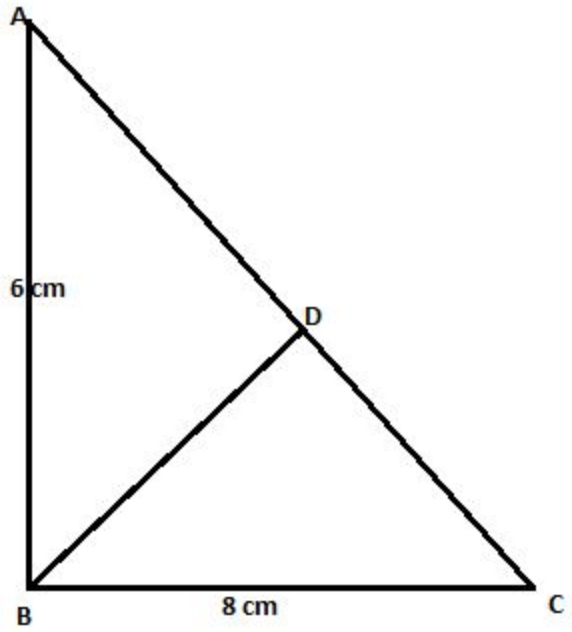
Explanation: In right-angled triangle ABC, AC = $\sqrt{AB^2 + BC^2} = \sqrt{6^2 + 8^2} = 10$ cms.

Since, AD = BD = CD = AC/2 = 5 cms



Question 17.The diagonals of two squares are in the ratio 5:2.The ratio of their area is

a. 5:6

b. 25:4

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c. 5:4

d. 125:8

Ans. 25:4

Explanation: Diagonal of square = side*√2;

Side of first square a1= d1/√2;

Side of second square a2= d2/√2;

Ratios of the areas=$(a1)^2/(a2)^2$ = $(d1/\sqrt{2})^2 / (d2/\sqrt{2})^2 = (d1)^2/(d2)^2$ = 25: 4;

Question 18.The angle of elevation of a ladder leaning against a wall is 60 degrees and the foot of the ladder is 4.6 m away from the wall. The length of the ladder is

a. 2.3 m

b. 4.6 m

c. 9.2 m

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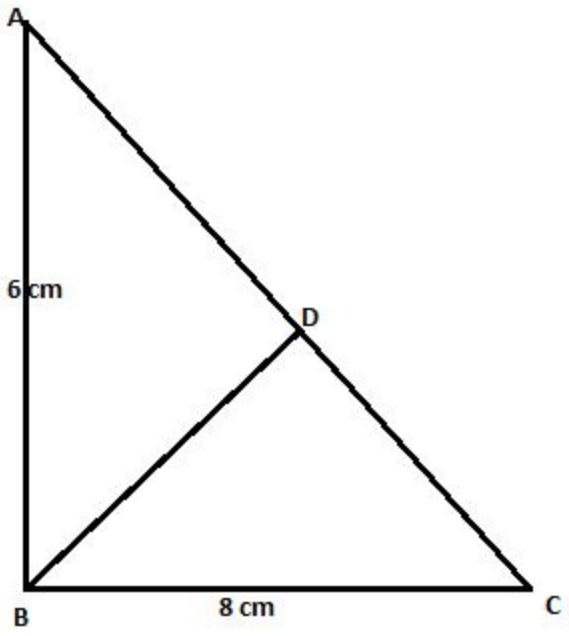
d. 7.8 m

Ans. 9.2 m

Explanation: From the figure given below,

cos60 =4.6/h; => h = 4.6 * 2 = 9.2 m



Question 19.The product of two 2-digit numbers is 2160 and their H.C.F. is 12. The numbers are

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a. (12, 60)

b. (72, 30)

c. (36, 60)

d. (60, 72)

Ans. (36, 60)

Explanation: only option (c.) follows the given condition because there product is equal to 2160 and HCF is 12.

Question 20.The difference between simple and compound interests compounded annually on a certain sum of money for 2 years at 4% per annum is Rs. 1. The sum (in Rs.) is:

a. 620

b. 630

c. 640

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d. 625

Ans. 625

Explanation: Suppose the principal amount = Rs. P;

Simple Interest = P*4*2/100 = 2P/25;

Compound Interest = $P(1 + 4/100)^2 - P = 51P/625$;

(51P/625) – (2P/25) =1;

(51P – 50P)/625 =1;

P = Rs. 625;

Question 21.In a mixture of 25 liters, the ratio of milk to water is 4:1. Another 3 liters of water is added to the mixture. The ratio of milk to water in the new mixture is

a. 5:1

b. 5:2

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c. 5:3

d. 5:4

Ans. 5:2

Explanation: The amount of milk in the mixture = (4/5) * 25 = 20 liters

The amount of water in the mixture = (1/5) * 25 = 5 liters

When added 3 liters of water, then total quantity of water = 8 liters;

The required ratio = 20: 8 = 5: 2.

Question 22.A constituency is divided in four regions A, B, C and D. Two candidates X & Y contested the last election from that constituency. The adjoining graph gives the break-up of voting in the four regions. Study the graph and answer the following question.

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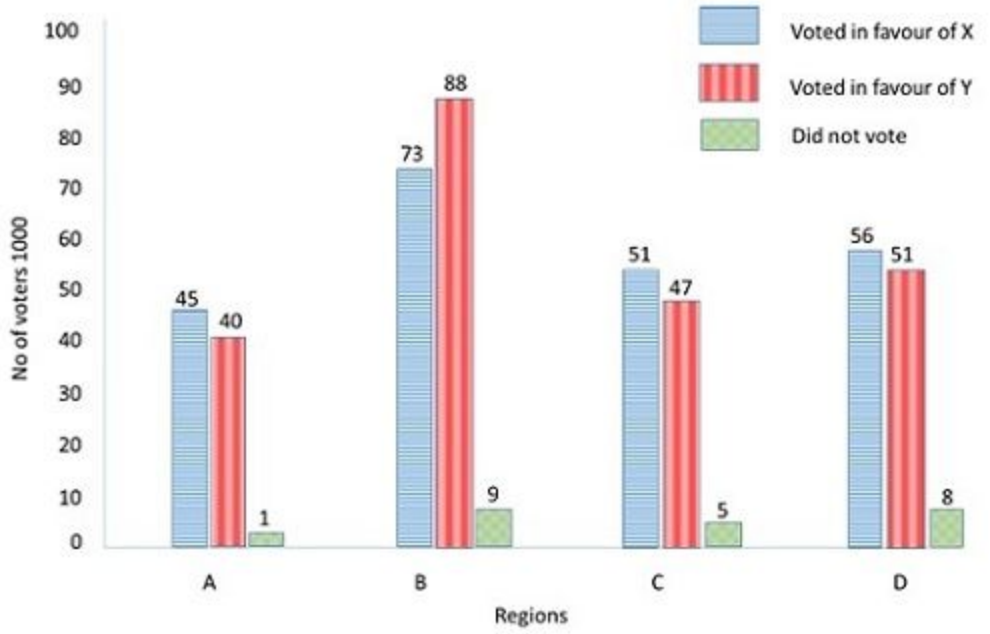

Approximately how much percent of voters voted in favor of X?

a. 45.4

b. 47.5

c. 50

d. 225

Ans. 47.5

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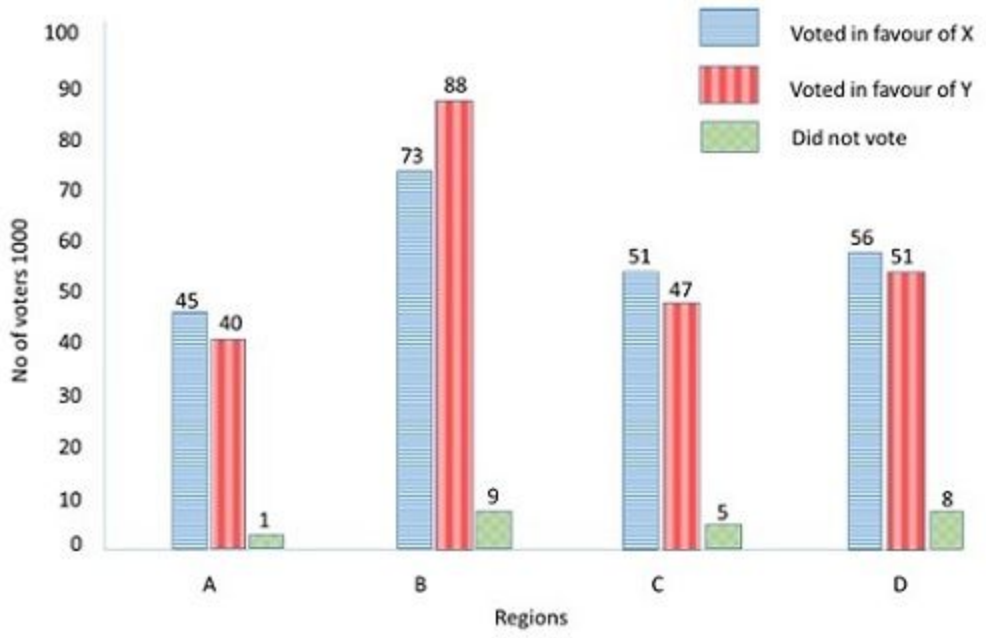
Explanation: Total number of voters, who have voted in favor of X = 45 + 72 + 51 + 56 = 225;

Total Voters = (45 + 40 +1) + (73 + 88 + 9) + (51 + 47 + 5) + (56 + 51 + 8)=474;

The required percentage = 225*100/474 = 47.46%

Question 23.A constituency is divided in four regions A, B, C and D. Two candidates X & Y contested the last election from that constituency. The adjoining graph gives the break-up of voting in the four regions. Study the graph and answer the following question.



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Approximately how much percent of voters did not caste their votes?

a. 4.9

b. 4.5

c. 0.23

d. 23

Ans. 4.9

Explanation: Total number of voters, who have not voted = 1 + 9 + 5 + 8 = 23;

Total Voters = (45 + 40 +1) + (73 + 88 + 9) + (51 + 47 + 5) + (56 + 51 + 8)=474;

The required percentage = 23*100/474 = 4.85%

Question 24.A constituency is divided in four regions A, B, C and D. Two candidates X & Y contested the last election from that constituency. The adjoining graph gives the break-up of voting in the four regions. Study the graph and answer the following question.

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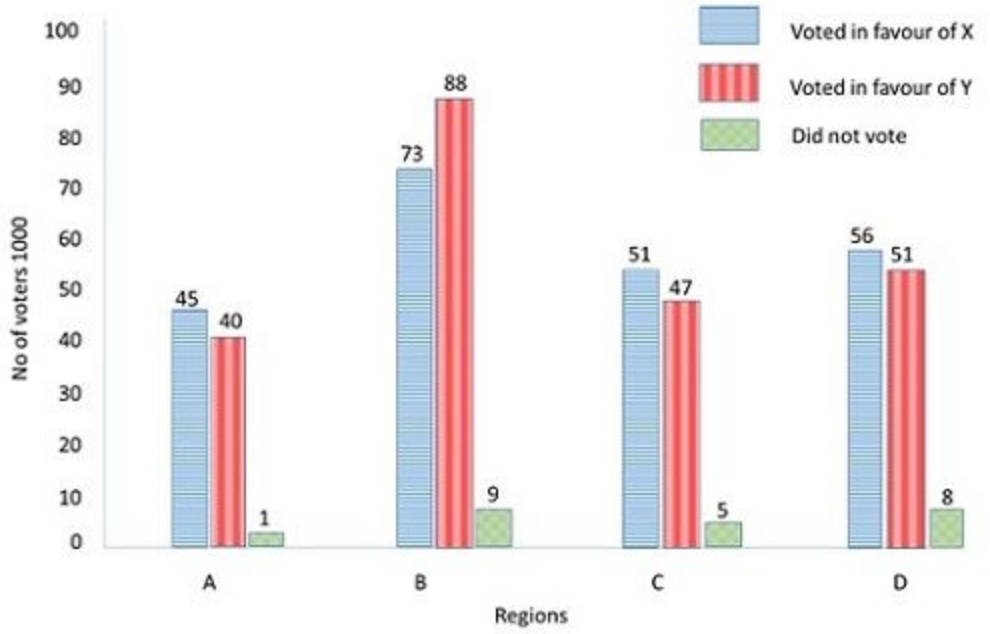

In region B, Y gets A% more votes than X. Find the value of A?

a. 24%

b. 21%

c. 19%

d. 15%

Ans. 21%

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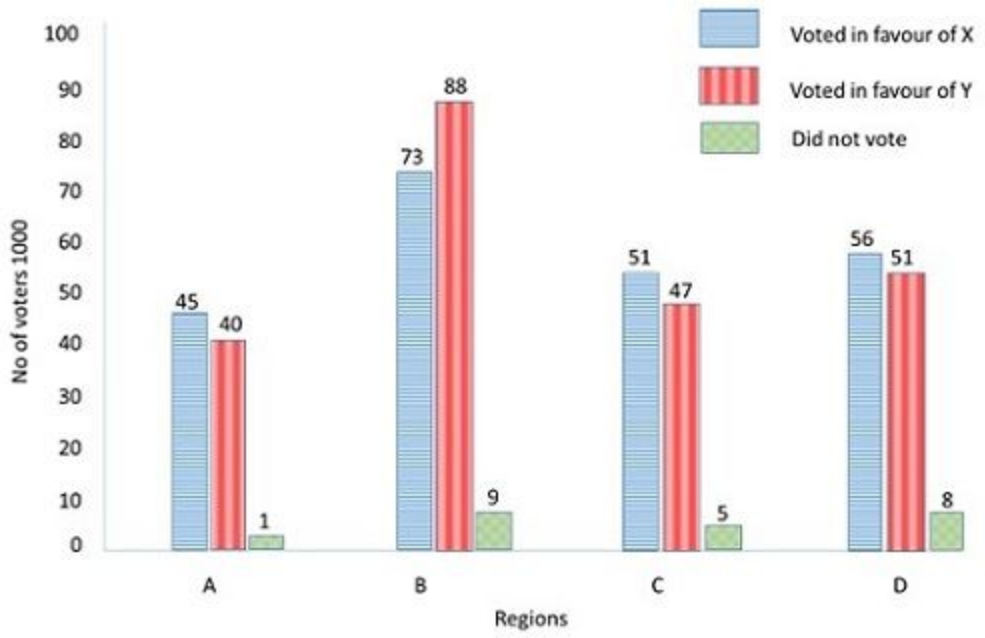
Explanation: % more voters for Y as compared to X= (88-73)*100/73 = 1500/73 =20.54%;

Hence, the required value of A = 21%.

Question 25.A constituency is divided in four regions A, B, C and D. Two candidates X & Y contested the last election from that constituency. The adjoining graph gives the break-up of voting in the four regions. Study the graph and answer the following question.



Nearly what percentage of his total votes did X receive from region B?

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a. 30

b. 31

c. 32

d. 35

Ans. 32

Explanation: The required percentage = 73*100/(73 + 45 + 51 + 56) = 7300/225 = 32.44%