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

1. 10m 2. 15m 3. 12.5m 4. 13.5 m

Ans:1

Explanation

Distance travelled in one second = $\frac{36\times 1000\ meter}{60\times 60\ seconds}$ = 10 m

(Or)

$\frac{5}{18}$x 36 = 10 m/s

(Note: 5 m/s = 18 kmph ; 10m/s = 36 kmph.)

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

1. $\frac{a+b}{a-b}$ 2. -1 3. 2ab 4. 1

Ans. 4

Explanation

The given sum → $\frac{a}{a-b}-\frac{b}{a-b}=\frac{a-b}{a-b}$ =1;

3. The value of $(1-\sqrt{2}+(\sqrt{2}-\sqrt{3}+(\sqrt{3}-\sqrt{4}+\ldots..+(\sqrt{15}-\sqrt{16})$ is

1. 0 2. 1 3. -3 4. 4

Ans. 3

Explanation

$=(1-\sqrt{2}+\sqrt{2}-\sqrt{3}+\sqrt{3}-\sqrt{4}+\ldots..+\sqrt{15}-\sqrt{16});$

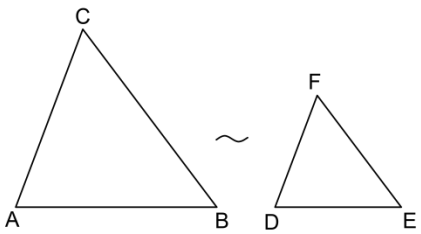
= 1-$\sqrt{16}$ = 1 − 4= -3 or 5.

4. ΔABC and ΔDEF are two similar triangles and the perimeter of ΔABC and ΔDEF are 30 cm and 18 cm respectively. If length of DE = 36 cm, then length of AB is

1. 60cm 2. 40cm 3. 45cm 4. 50 cm

Ans. 1

Explanation



As per the property of similar triangle,

Perimeter of ΔABC/ perimeter of ΔDEF = $\frac{AB}{DE} = \frac{BC}{EF} = \frac{AC}{DF}$

$= \frac{AB+BC+AC}{DE+EF+DF} = \frac{Permeter\ of\ triaangle\ ABC}{Perimeter\ of\ triangle\ DEF}$

$\frac{30}{18} = \frac{AB}{36}$; => AB = 60 cm

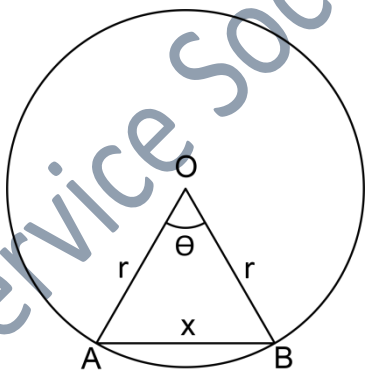
5. If the length of a chord of a circle is equal to that of the radius of the circle, then the angle subtended, in radians, at the centre of the circle by chord is

1. 1 2. $\frac{\pi}{2}$ 3. $\frac{\pi}{3}$ 4. $\frac{\pi}{4}$

Ans. 3

Explanation

Refer the figure given below: given x = r. Therefore, therefore the triangle OAB is an equilateral triangle. Hence, each angle of this triangle will of 60°, which in radian will be equal to $\frac{\pi}{3}$ (= the angle θ subtended at the centre).



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

1. 1 2. $2\sqrt{3}$ 3. 0 4. $\frac{1}{\sqrt{2}}$

Ans:3

Explanation

Put the numeric values of these trigonometric ratios:

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

(Since, sec 45° = $\sqrt{2}$, sin 30° = $\frac{1}{2}$, cot 45° = 1, sin 60° = $\sqrt{3}/2$)

= 2-1-1=0.

Alternate method:

Since $\sin^2 30 + \sin^2 60 = \sin^2 30 + \cos^2 30 = 1$, the sum → $(\sqrt{2})^2 - 1 - 1^2 = 0$.

7. 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?

1. 80% 2. 20% 3. 40% 4. 30%

Ans. 2

Explanation

Let the number of male employees = x;

and the number of female employees = y;

Given: Total salaries of all male and female employees =5200x + 4200y

= 5000(x + y); (since their mean salaries is Rs. 5000)

→ 200x = 800y → x= 4y;

Hence, % of female employees = $\frac{y}{x+y} \times 100 = \frac{y}{4y+y} = \frac{1}{5} = 20\%$.

8. Find the value of 105^3 of

1. 1157625 2. 1175625 3. 1185625 4. 1158625

Ans. 1

Explanation

$(105)^3 = (100 + 5)^3$; $= (100)^3 + (5)^3 + 3 \times 100 \times 5(100 + 5)$;

= 1000000 + 125 + 150000 + 7500 = 1157625;

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

1. 5:6 2. 25:4 3. 5:4 4. 125:8

Ans : 2

Explanation

Area of a square in terms of diagonal, d $= \frac{d^2}{2} \alpha\ d^2$

Ratio of areas of 2 squares with diameter d_1 and d_2 in terms of diagonals $= d_1^2 : d_2^2$

$\therefore$ Ratio of their areas $= 5^2 : 2^2 = 25:4$

(Also Area of a square of side a $= a^2$

$\therefore$ Ratio of areas for 2 square of side a_1 and a_2 are $= a_1^2 : a_2^2$)

10. The product of two 2-digit numbers is 2160 and their HCF is 12. The numbers are

1. (12,60) 2. (72,30) 3. (36,60) 4. (60, 72)

Ans. 3

Explanation

Work out from answers given. Consider the values given in the answer.

The given condition, i.e., the product of the 2 numbers = 2160 is satisfied by options (2) and option (3). But the condition HCF =12 is satisfied by option (3) only.

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

1. 620 2. 630 3. 640 4. 625

Ans. 4

Explanation

The difference between CI and SI for 2 years $= P\left(\frac{R}{100}\right)^2$

i.e., $1 = P\left(\frac{4}{100}\right)^2 = P \times \frac{16}{10000}$

$\therefore P = \frac{10000}{16} = 625$

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

1. 5:1 2. 5:2 3. 5:3 4. 5:4

Ans. 2

Explanation

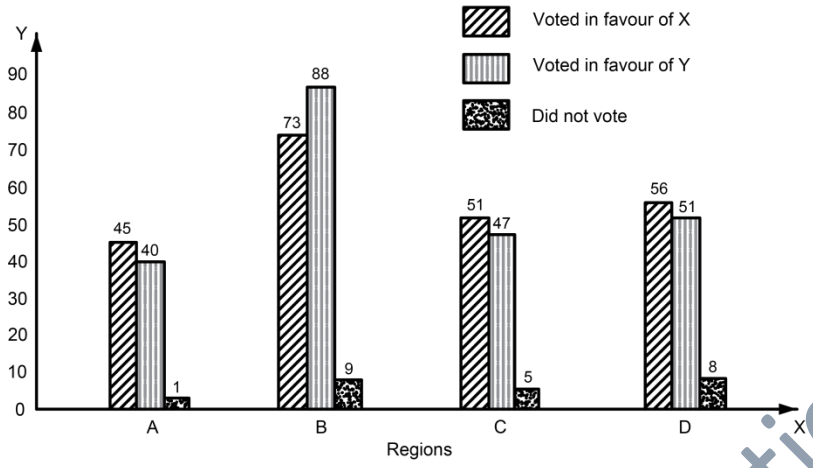
The amount of milk in the mixture $= \left(\frac{4}{5}\right) \times 25 = 20$ liter

$\therefore$The amount of water in the mixture $= \left(\frac{1}{5}\right) \times 25 = 5$ liter

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

The ratio of the mixture= 20: 8 = 5: 2.

13. 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.



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

1. 45.4 2. 47.5 3. 50 4. 225

Ans. 2

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 = $225\times\frac{100}{474}$ = 47.46%

14. Sum of two numbers is thrice their difference. Their ratio is

1. 1:2 2. 2:1 3. 3:1 4. 1:3

Ans. 2

Explanation

Let these numbers are x and y;

Given that (x + y) = 3×(x – y)→ 2x = 4y; Hence, x: y = 2: 1.

15. A and B together can do a piece of work in 36 days, B and C together can do it in 24 days. A and C together can do it in 18 days. The three working together can finish the work in

1. 8days 2. 16days 3. 30days 4. 32 days

Ans. 2

Explanation

A and B's one day combined work = $\frac{1}{36}$ part

B and C's one day combined work = $\frac{1}{24}$ part

C and D's one day combined work = $\frac{1}{18}$ part

∴ Combined work done by A, B and C in one day $= \frac{1}{2}\left(\frac{1}{36}+\frac{1}{24}+\frac{1}{18}\right)$

$= \frac{1}{2}\left[\frac{2+3+4}{72}\right] = \frac{1}{2x8} = \frac{1}{16} \rightarrow 16$ days to complete the work.

16. Two adjacent sides of a parallelogram are 21 cms and 20 cm. The diagonal joining the endpoints of these two sides is 29 cm. The area of the parallelogram (in sq. cm) is

1. 240 2. 120 3. 210 4. 420

Ans. 4

Explanation

Area of parallelogram ABCD = 2 × (Area of triangle ABC);

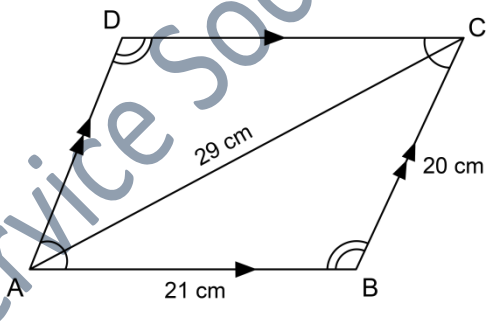
The area of triangle ABC = $\sqrt{s(s-a)(s-b)(s-c)}$;

where s = $\frac{a+b+c}{2}$ = $\frac{20+21+29}{2}$ = 35;

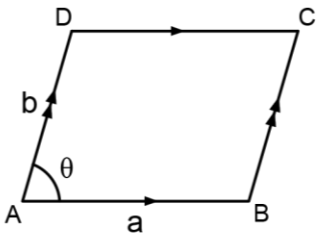
The area of triangle ABC = $\sqrt{35(35-20)(35-21)(35-29)}$

= $\sqrt{35 \times 15 \times 14 \times 6}$ = 7×5×3×2 = 210 sq. cm,

Hence, the area of parallelogram= 210×2 = 420 sq. cm.

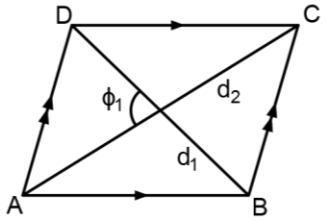


Box: Parallelogram



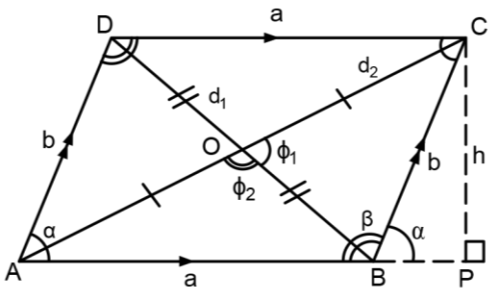
$A = ab \sin\theta$

i.



$A = \frac{1}{2} d_1 d_2 \sin\theta$

ii.



iii.

Note

Sides of a parallelogram: a,b
Diagonals: d_1 , d_2
Consecutive angles: α, β
Angle between the diagonals: ϕ_1, ϕ_2
Altitude: h
Perimeter: L = 2(a+b)

$\alpha + \beta = 180°$

$d_1^2 + d_2^2 = 2(a^2 + b^2)$

$h = b \sin\alpha$

Area, $A = ah = ab \sin\alpha$

17. The average age of 36 students in a group is 14 years. When the teacher's age is included in it, the average increases by one. The teacher's age in years is

1. 31 2. 51 3. 36 4. 50

Ans. 2

Explanation

Let the age of teacher be, X

Total age of 36 students = 36x14

Total age of 36 students and one teacher age, X =37x15

i.e., 36x14 + X = 37x15 →X =37x15 - 36x14 = 51.

18. A dishonest dealer professes to sell his goods at cost price but uses a weight of 875 grams for the kilogram weight. His gain in percentage is

1. 17% 2. (103/7) % 3. $\frac{100}{7}$% 4. 14%

Ans. 3

Explanation

For 1 kg weight, he sells only 875 gram weight only and the profit is 125 gram weight of that item.

∴ Profit is $\frac{125}{875} = \frac{125 \times 100}{875} = \frac{100}{7}\%$

19. A's salary is 50% more than that of B. Then, B's salary is less than that of A by

1. 50% 2. $\left(\frac{100}{3}\right)\%$ 3. $\left(\frac{133}{4}\right)\%$ 4. $\left(\frac{89}{2}\right)\%$

Ans. 2

Explanation

Given: Salary of A = 1.5 × B's salary;

Let B's salary = 100

∴A's salary =Rs. 150

i.e., B' s salary is Rs. 50 less than A's salary = $\frac{50}{150} \times 100 = \left(\frac{100}{3}\right)\%$ less.

20. Speed of a boat along and against the current are 14 kms/hr and 8 kms/hr respectively. The speed of the current is

1. 11km/hr 2. 6 km/hr 3. 5.5km/hr 4. 3 km/hr

Ans. 4

Explanation

The speed of boat = ½ [Downstream speed + Upstream Speed]

= ½ [14 + 8]=11kmph;

The speed of stream = ½ [Downstream speed - Upstream Speed]

= ½ [14 -8]=6 kmph;

Hence, the speed of current = 14 – 11 = 3 kmph;

21. If the simple interest on Rs. 1 for 1 month is 1 paisa, then the rate percent per annum will be

1. 10% 2. 8% 3. 12% 4. 6%

Ans : 3

Explanation

SI = $\frac{PNR}{100}$;

∴ SI for Re. 1 is 12 paise or Re. 12/100 for 12 months or 1 year.

i.e., $\frac{12}{100} = \frac{1x1xR}{100} \rightarrow$ R = 12%

22. If p = 99, then the value of $p(p^2 +3p+3)$ will be

1. 999999 2. 1000000 3. 1000001 4. 999998

Ans.1

Explanation

Method 1

Substitute the value of p and find the sum: $99\times(99^2 + 3x99+3) = 999999$;

Or

The given sum: $p(p^2 +3p+3) = p^3 +3p^2+3p = p^3 +3p^2+3p +1 -1$

$= (99 +1)^3 - 1$

$= 100^3 - 1 = 999999$.

23. If a-b=1 and $a^3-b^3 = 61$, then the value of ab will be

1. -20 2. 20 3. 30 4. 60

Ans. 2

Explanation

Given: a-b = 1

$(a-b)^2 = a^2+b^2-2ab =1 \rightarrow ab = \frac{1}{2}(a^2+b^2+1)$

$(a^3-b^3) = (a-b)(a^2+b^2+ab) = 61$ ……(2)

i.e., $61 = 1 \times (a^2+b^2+ab) = 61$ ……(2)

Eq.(2) - Eq.(1) $\rightarrow$ $3ab = 60 \rightarrow ab=20$;

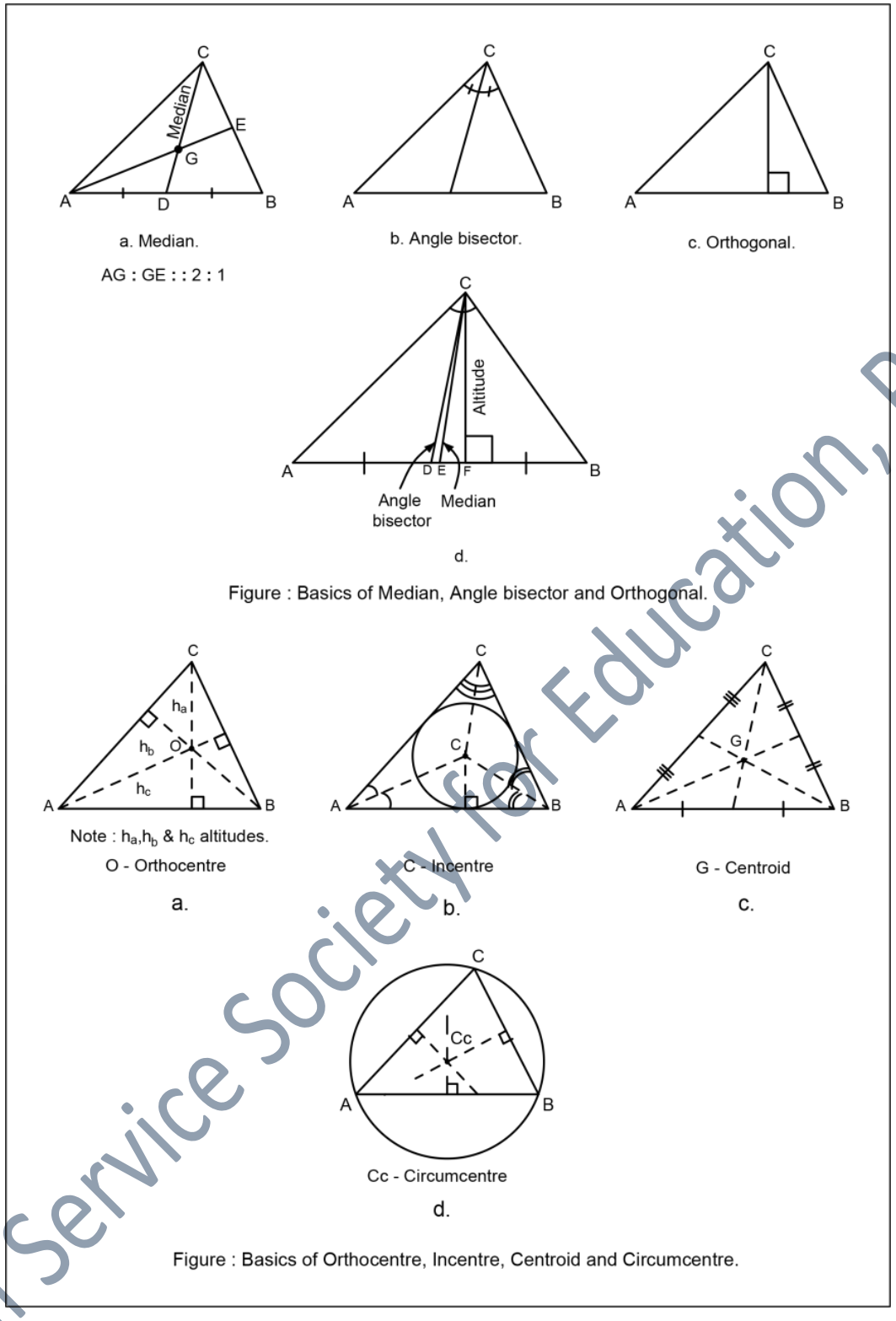
24. The point where the 3 medians of a triangle meet is called

1. Centroid 2. Incentre 3. Circumcentre 4. orthocentre

Ans. 1

Explanation

The centroid of a triangle is the intersection of the three medians of the triangle (each median joins a vertex with the midpoint of the opposite side). It lies on the triangle's Euler line, which also goes through various other key points including the orthocentre and the circumcentre. See the figs below:



25. Factor of $81y^4 - z^2$

1. $(9y-z)(9y^3+z)$
2. $(9y^2-z)(9y^2+z)$
3. $(3y+z)(27y^3 - z)$
4. $(9y^2+ z)\ (9y^2–z)$

Ans: 4

26. A 1.6 m tall observer is 45 meter away from a tower. The angle of elevation from his eye to the top of the tower is 30°, then the height of the tower in meter is (Take √3 = 1.732).

1. 25.98 2. 26.58 3. 27.58 4. 27.98

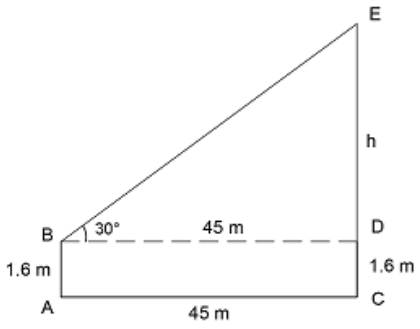
Ans. 3

Explanation

In triangle APC,

tan30=$\frac{1}{\sqrt{3}} = \frac{h}{45} \rightarrow$ h = $\frac{45}{\sqrt{3}}$= 25.98 meter;

Hence, the height of tower = 25.98 + 1.6 = 27.58 meter;



27. The sum of the cubes of the first n natural number is

1. $\frac{[n(n+1)]^2}{4}$ 2. n^2 3. $\frac{n(n+1)(n+2)}{6}$ 4. *None*

Ans: 1.

28. If the sum of a number and its reciprocal be 2, then the number is

1. 1 2. -1 3.2 4. None

Ans. 1

Explanation

Let the number is x.

Given: x + $\frac{1}{x}$ = 2→ $x^2 - 2x + 1 = 0 \rightarrow (x-1)(x-1) = 0 \rightarrow x = 1$;

29. The price of a shirt after 15% discount, is Rs.119. What was the marked price of the shirt before discount?

1.Rs.129 2.Rs.140 3.Rs.150 4. Rs.160

Ans:2

Explanation

Let the marked price of shirt= Rs. x;

After 15% discount, the price = 85% of x, i.e., 119→ x= 119×$\frac{100}{85}$= 140.

30. The average of a, b, c (i.e., 3 numbers) is 20 and that of b, c, d is 25; if d=30, then the value of' 'a' is

1. 25 2. 45 3. 30 4. 15

Ans:4 **Explanation**

From the given data,

a + b + c =60 …….. (1)

b + c + d = 75…….. (2)

d= 30. ∴ $Eqn.(2)$ →b + c + 30 = 75…….. (3)

∴ b + c = 45…….. (4)

Subtract Eqn.(4) from Eqn.(1): → a = 60-45=15;

31. A store sells a watch for a profit of 25% of the cost. Then the percentage of profit against selling price is

1. 22% 2. 20% 3. 18% 4. 15%

Ans. 2

Explanation

From the given condition for a profit of 25%, the selling price = 125 where cost price is 100.

∴ Profit against the selling price = $\frac{25}{125} \times 100 = 20\%$

32. If A is equal to 20% of B and B is equal to 25% of C; then what percent of C is equal to A?

1.10 2.15 3.5 4. 20

Ans. 2

Explanation

Given: A = 0.20B; B = 0.25C;

∴ Write A in terms of C: A= 0.20×0.25C = 0.05C =$\frac{5}{100}$. Hence, A is 5% of C.

33. A gun is fired at a distance of 1.7 km from Ramu and he hears the sound after 25 seconds. The speed of sound in m/s is

1. 60 2. 62 3. 64 4. 68

Ans. 4

Explanation

As per the sum, speed of sound= $\frac{Distance\ travelled}{traveling\ time\ of\ sound}$

$=\frac{17x1000}{25}$ = 68 seconds.

34. In how many year2, a sum of ₹ 3000 can yield an interest of ₹ 1080 at 12% per annum simple interest?

1. 4 year 2. 3 year 3. 5year 4.None

Ans. 2

Explanation

SI = $\frac{PNR}{100}$

P = Rs . 3000, SI = Rs. 1080, R = 12%. ∴ N = $\frac{1080 \times 100}{3000 \times 12}$ = 3.

35. Twenty women can do a work in sixteen days. Sixteen men can complete the same work in fifteen days. The ratio between the capacity of a man and a woman is

1. 3:4 2. 4:3 3. 5:3 4. 5:7

Ans:2

Explanation

One man's one day work : one woman's one day work =$\frac{1}{16\times15} : \frac{1}{20 \times16}$

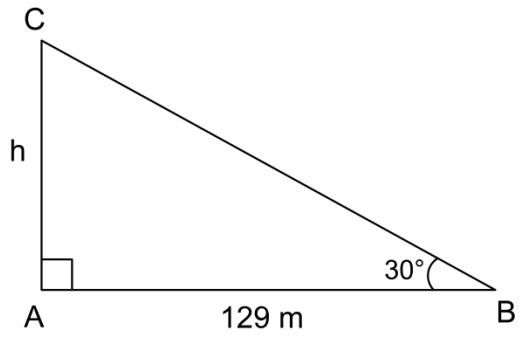
$=\frac{1}{240}:\frac{1}{320}:=\frac{1}{3}:\frac{1}{4} \rightarrow \frac{4}{12}:\frac{3}{12} \rightarrow$ 4:3.

36. 129 meter from the foot of a cliff on level of ground, the angle of elevation of the top of a cliff is 30°. The height of this cliff is

1. $50\sqrt{3}$metre 2. $45\sqrt{3}$metre 3. $43\sqrt{3}$metre 4. $47\sqrt{3}$metre

Ans. 3

Explanation:



AC is the cliff.

From the above Figure, $\tan\theta = \frac{h}{129}$

$$\textbf{tan } 30^{o} = \frac{h}{129} = \frac{1}{\sqrt{3}} \rightarrow \textbf{h} = 43\sqrt{3}$$

37. The volume of metallic cylindrical pipe of uniform thickness is 748 c.c. Its length is 14 cm and its external radius is 9 cm. The thickness of the pipe is

1. 0.5cm 2. 1.5cm 3. 1cm 4. 2cm

Ans. 3

Explanation

Let R be the outer radius and r inner radius; h be the length.

Given R = 9 cm and h = 14

Volume of hollow cylinder=π[(outer radius)^2- (inner radius)^2]× length

$$= \pi (R^2 - r^2)h$$

$$\therefore 748 = \pi [9^2 - r^2] \times 14 \rightarrow 9^2 - r^2 = \frac{748x7}{14x22} \rightarrow r^2 = 64 \therefore r = 8.$$

Thickness = Outer radius-Inner radius = R – r = 9-8 = 1 cm.

38. The bar graph shows the production of table fans in a factory during one week. Study the bar graph and answer the question.

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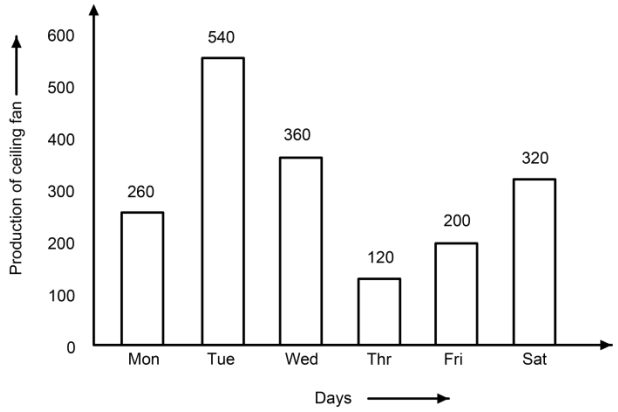


The maximum production exceeds the minimum production by:

1..400 2.420 3.500 4. 540

Ans. 2

Explanation

Difference between maximum & minimum production= 540 – 120 = 420.

39. The average production of table fan in that week is

1. 370 2. 280 3. 300 4. 250

Ans. 3

Explanation

Average production of table fan

$= \frac{260 + 540 + 360 + 120 + 200 + 320}{6} = \frac{1800}{6} = 300;$

40. Ratio of the total production of table fans in the factory from Monday to Wednesday to that from Thursday to Saturday is

1. 19:26 2 .26:19 3. 29:16 4. 16:29

Ans. 3

Explanation

Table fan production from Monday to Wednesday= 260 + 540 + 360= 1160;

Table fan production from Thursday to Saturday = (120+200+320)= 640;

Ratio = 1160: 640 = 29: 16.

41. The average production of table fans on both Monday and Tuesdays exceeds the average production of table fans during the week by

1. 150 fans 2. 100 fans 3. 140fans 4. 200fans

Ans. 2

Explanation

Average production of table fan on Mondays and Tuesdays= $\frac{540+260}{2}$=400.

Average production of table fans through the week = 300.

Hence, difference= 400-300 = 100 fans.

42. A and B together can do a piece of work in 9 days. If A does thrice the work of B in a given time, the time A alone will take to finish the work is

1. 4days 2. 6days 3.8days 4. 12 days

Ans. 4

Explanation

Let 'a' be the number of days taken by A to complete the work and 'b' days for B.

From the given condition, if A completes the work in 1 day, B will take 3 days.

∴ a = 3b

: Total work done by A and B in 1 day = $\frac{1}{a}+\frac{1}{3a}=\frac{4}{3a}=\frac{1}{9}\rightarrow a=\frac{4\times9}{3}=12$

43. The diameters of two cylinders are in the ratio 3:2 and their volumes are equal. The ratio of their heights is

1 .2:3 2. 3:2 3. 9:4 4. 4:9

Ans. 4

Explanation

Ratio of volumes of the two cylinders: $V_1:V_2=\frac{\pi}{4}\times D_1^2h_1:\frac{\pi}{4}\times D_2^2h_2$

Given: Volumes of both cylinders are equal: $V_1=V_2\rightarrow D_1^2h_1:D_2^2h_2$

$\therefore h_1:h_2=D_2^2:D_1^2=2^2:3^2=4:9$

44. A trader sold a cycle at a loss of 10%. If the selling price had been increased by Rs. 200, there would have been a gain of 6%. The cost price of the cycle is

1.Rs.1200 2.Rs.1205 3.Rs.1250 4. Rs.1275

Ans.3

Explanation

Let the cost price of the cycle be Rs. x;

SP at a loss of 10% = 0.90x;

SP increased (0.90x) by Rs. 200 → 0.90x + 200

As per the stated condition,

0.90x + 200 = 1.06x→ $0.16x = 200$ → x = Rs. 1250

45. In a city, 40% of the people are illiterate and 60% are poor. Among the rich, 10% are illiterate. The percentage of the illiterate poor population is

1. 36 2. 60 3. 40 4. 50

Ans. 1

Explanation

Let total number of people be=100;

Total poor people = 60% = 60; Therefore, rich people = 40% = 40;

Total illiterate people = 40% of total people = 40;

Among rich, 10% are illiterate = 10% of 40 = 4;

The number of the illiterate among poor population =40−4=36;

Therefore, illiterate poor =36 = 36%.

46. In what time will a 100 metre long train running with a speed of 50 km/hr cross a pillar?

1. 7.0sec 2. 7.1sec 3. 7.2sec 4. 7 sec

Ans. 3

Explanation

Train speed = 50 kmph= $50\times\frac{5}{18}$ m/s

Consider train length as the distance

Time to cross a pole = $\frac{Distance}{Speed}$ = $\frac{100}{50\times\frac{5}{18}}$= 7.2 sec.

47. If l + m + n = 9 and $l^2 + m^2 + n^2 = 31$, then the value of lm + mn + nl will be

1.22 2.50 3.25 4. -25

Ans. 3

Explanation

$(\ell + m + n)^2 = \ell^2 + m^2 + n^2 + 2(\ell m + mn + n\ell)$;

i.e., $9^2 = 31 + 2(\ell m + mn + n\ell)$

Hence, $\ell m + mn + n\ell = \frac{9^2 - 31}{2} = \frac{50}{2} = 25$;

48. In a trapezium ABCD, AB || CD, AB < CD, CD = 6 cm and distance between the parallel sides is 4 cm. If the area of ABCD is 28 cm^2, then AB is

1.1cm 2. 2cm 3.3cm 4. 8 cm

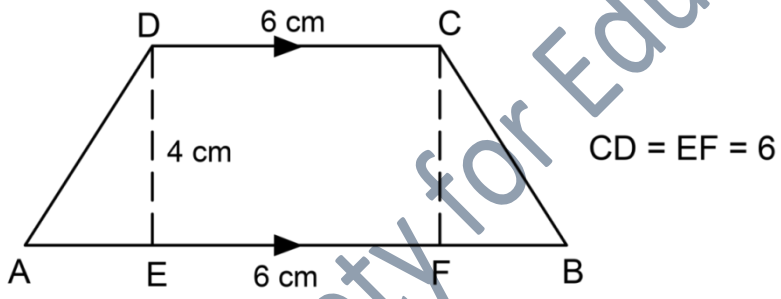
Ans. 4

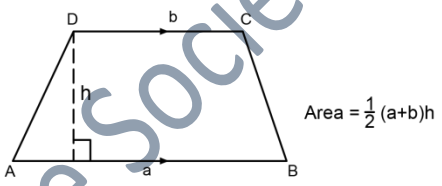
Explanation

The area of trapezium = $\frac{1}{2}$× Sum of the parallel sides× altitude;

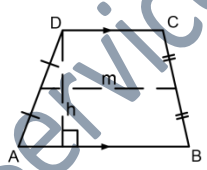
Let AB = a cm;

Area: 28 = $\frac{1}{2}$ (a+b) × 4 → a +b =14 → a =8 cm;



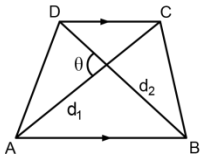


i.



A = mh

ii.



Note : A = Area.

$A = \frac{1}{2} d_1 d_2 \sin\theta$

iii.

Fig.:Trapezium properties

49. The centroid of a triangle is the point where

1. The medians meet

2. The altitudes meet

3. The right bisectors of the sides of the triangle meet

4. The bisectors of the angles of the triangle meet

Ans. 1.

(Note:

1. The point where the altitudes meet - Orthocentre
2. The point where the right bisectors of the sides of the triangle meet – Circum centre
3. The point where the bisectors of the angles of the triangle meet)

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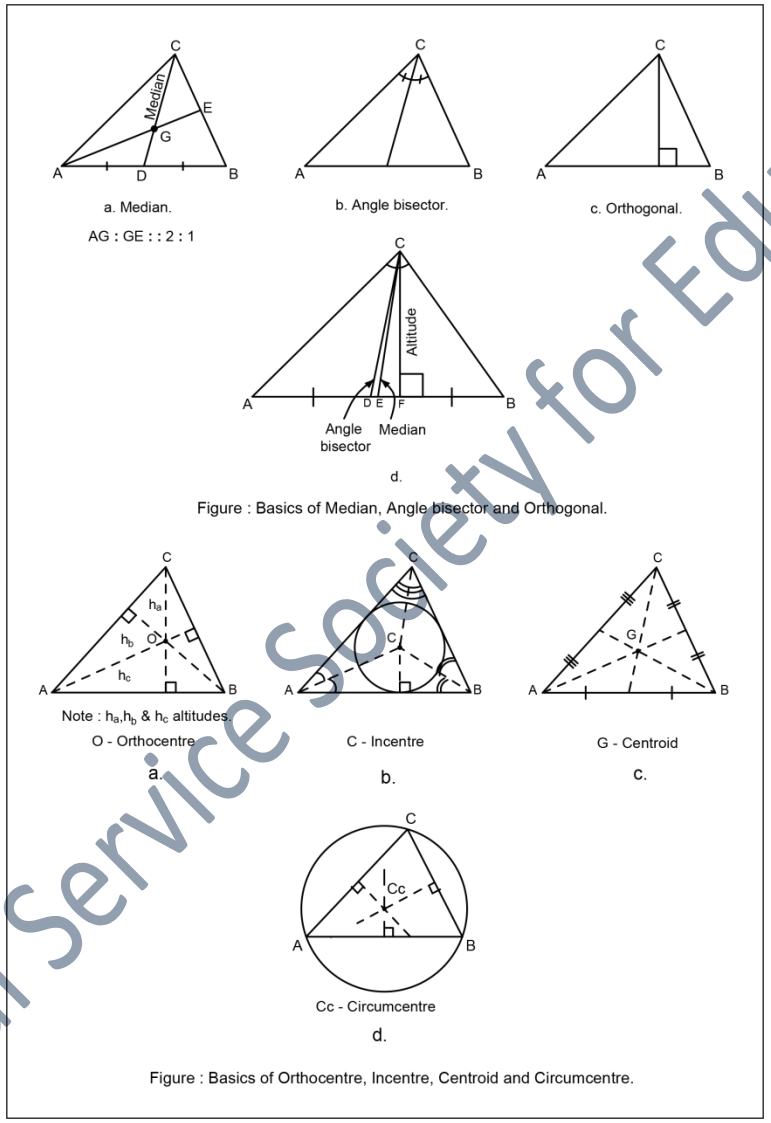

50. In a triangle ABC, the side BC is extended to D. ∠BAC = 72° and ∠ACD = 110°, then the value of ∠ABC is:

1. 38° 2. 32° 3.25° 4. 29°

Ans. 1

Explanation