

# ఆ చతురస్రాకార పొలం చుట్టుకొలత ఎంత?



సి. జయప్రకాశ్ రెడ్డి

సజ్జెక్టు నిపుణులు

### మాదిరి ప్రశ్నలు

- $\sqrt{5625} = 75$  అయితే,  $\sqrt{0.5625} + \sqrt{56.25}$  విలువ?
  - 1) 82.5
  - 2) 0.75
  - 3) 8.25
  - 4) 7.5
- 3;**  $\sqrt{5625} = 75$   
 $\sqrt{0.5625} = \sqrt{\frac{5625}{10000}} = \frac{75}{100} = 0.75$   
 $\sqrt{\frac{5625}{100}} = \frac{75}{10} = 7.5$   
 $= 7.5 + 0.75 = 8.25$
- ఒక చొక్కా ప్రకటన వెల 800, అమ్మకపు వెల 680. అయితే ఆ చొక్కా పై లభించిన రుసుము శాతం ఎంత?
  - 1) 10%
  - 2) 15%
  - 3) 20%
  - 4) 25%
- 2;** ప్రకటన వెల = రూ. 800  
అమ్మిన వెల = 680  
రుసుము =  $800 - 680 = 120$   
రుసుము శాతం =  $\frac{120}{800} \times 100 = 15\%$
- 500 మీ. భుజం ఉన్న ఒక చతురస్రాకార పార్కు చుట్టూ కంచె వేయడానికి మీటరుకు రూ.30 వంతున అయ్యే ఖర్చు ఎంత?
  - 1) రూ. 15,000
  - 2) రూ.30,000
  - 3) రూ.60,000
  - 4) రూ.75,000
- 3;** చతురస్ర చుట్టుకొలత = 4 భుజం = 4  $\times$  500 = 2000మీ.  
ఖర్చు =  $2000 \times 30 =$  రూ. 60000
- ఒక ఘనం భుజాన్ని 10 రెట్లు చేసినప్పుడు దాని ఘనపరిమాణంలో మార్పు?
  - 1) ఘనపరిమాణం 1000 రెట్లు పెరుగుతుంది
  - 2) ఘనపరిమాణం 100 రెట్లు పెరుగుతుంది
  - 3) ఘనపరిమాణం 10 రెట్లు పెరుగుతుంది
  - 4) ఘనపరిమాణం 1/1000 రెట్లు అవుతుంది.
- 1;** ఘనం భుజం =  $x$   
ఘనం ఘనపరిమాణం =  $x^3$   
 $= (10x)^3 = 1000x^3$   
1000 రెట్లు పెరుగుతుంది.
- వ్యాసం 14 సెం.మీ.గా ఉన్న వృత్తం చుట్టుకొలత సెం.మీ.లలో?
  - 1) 154
  - 2) 88
  - 3) 44
  - 4) 22
- 3;** వ్యాసం (d) = 14 సెం.మీ.  
వృత్త వ్యాసార్థం(r) =  $\frac{d}{2} = \frac{14}{2} = 7$ cm  
చుట్టుకొలత =  $2\pi r = 2 \times \frac{22}{7} \times 7 = 44$  సెం.మీ.
- 24, 29, 34, 38,  $x$ ల సరాసరి 32 అయితే 'x' విలువ
  - 1) 25
  - 2) 32
  - 3) 34
  - 4) 35
- 4;** 24, 29, 34, 38,  $x$ ల సరాసరి 32

- $$= \frac{24+29+34+38+x}{5} = 32$$
- $$125 + x = 160$$
- $$x = 160 - 125 = 35$$
- ఒక పూర్ణాంకం 3 రెట్లకు 15 కలిపితే 93 వచ్చిన ఆ సంఖ్య ఎంత?
    - 1) 26
    - 2) 28
    - 3) 75
    - 4) 78
  - 1;** పూర్ణాంకం =  $x$   
 $3x + 15 = 93$   
 $3x = 93 - 15 = 78$   
 $x = \frac{78}{3} = 26$
  - కింది వానిలో 1కి సమానమైనది ఏది?
    - 1)  $5^\circ + 6^\circ + 7^\circ$
    - 2)  $5^\circ \times 6^\circ \times 7^\circ$
    - 3)  $(6^\circ - 5^\circ) \times 7^\circ$
    - 4)  $(7^\circ - 6^\circ) \times (7^\circ + 6^\circ)$
  - 2;**  $5^\circ = 1$   
 $6^\circ = 1$   
 $7^\circ = 1$   
 $5^\circ \times 6^\circ \times 7^\circ = 1 \times 1 \times 1 = 1$
  - $\sqrt{3} = 1.732$  అయితే  $\sqrt{75}$  విలువ?
    - 1) 8.66
    - 2) 8.3
    - 3) 8.5
    - 4) 9.3
  - 1;**  $\sqrt{75} = \sqrt{25 \times 3} = 5\sqrt{3}$   
 $= 5 \times 1.732 = 8.66$
  - ఒక చతురస్రాకార పొలం వైశాల్యం 7396 చ.మీ. అయితే ఆ చతురస్రాకార పొలం చుట్టుకొలత (మీ.లలో) ఎంత?
    - 1) 354
    - 2) 334
    - 3) 444
    - 4) 344
  - 4;** చతురస్రాకార పొలం వైశాల్యం = 7396 చ.మీ.  
చతురస్ర వైశాల్యం = (భుజం)<sup>2</sup>  
(భుజం)<sup>2</sup> = 7396  
భుజం =  $\sqrt{7396} = 86$   
చతురస్ర చుట్టు కొలత = 4 భుజం = 4  $\times$  86 = 344 సెం.మీ.
  - $\frac{3}{4}A = \frac{5}{7}B$  అయితే A: B?
    - 1) 20 : 20
    - 2) 21 : 20
    - 3) 20 : 21
    - 4) 10 : 11
  - 3;**  $\frac{3}{4}A = \frac{5}{7}B$   
 $A = \frac{5}{7} \times \frac{4}{3}B$   
 $\therefore A : B = 20 : 21$
  - $3(x-3) = 5(2x+1)$  అయితే 'x' విలువ?
    - 1) -4
    - 2) -3
    - 3) -2
    - 4) -1
  - 3;**  $3(x-3) = 5(2x+1)$   
 $3x-9 = 10x+5$   
 $10x-3x = -9-5$   
 $7x = -14 \Rightarrow x = -2$
  - ద్విచతురస్ర పొడవు, వెడల్పులు (5x + 4)మీ., (x-4) మీ. అయితే దాని చుట్టుకొలత (మీ. లలో)?
    - 1) 8x
    - 2) 7x
    - 3) 14x
    - 4) 12x
  - 4;** దీ.చ. పొడవు, వెడల్పులు



- $$(5x+4) \text{ మీ., } (x-4) \text{ మీ.}$$
- $$\text{చుట్టుకొలత} = 2(\text{పొడవు} + \text{వెడల్పు})$$
- $$= 2(5x+4+x-4)$$
- $$= 2(6x) = 12x$$
- $3x^\circ, (2x-5)^\circ$ లు పూరక కోణాలైన 'x' విలువ?
    - 1) 19°
    - 2) 20°
    - 3) 21°
    - 4) 22°
  - 1;**  $3x^\circ + (2x-5)^\circ = 90^\circ$   
 $5x-5 = 90^\circ$   
 $5x = 95$   
 $x = 19^\circ$
  - $\Delta ABC$ లో  $\angle A = 30^\circ, \angle B = 45^\circ$  అయితే  $\angle C$ ?
    - 1) 95°
    - 2) 100°
    - 3) 105°
    - 4) 110°
  - 3;**  $\angle A + \angle B + \angle C = 180^\circ$   
 $30^\circ + 45^\circ + \angle C = 180^\circ$   
 $\angle C = 180^\circ - 75^\circ = 105^\circ$
  - గత సంవత్సరం 1000 వస్తువుల ధర రూ.5000. ఈ సంవత్సరం ఆ వస్తువుల ధర రూ.4000లకు పడిపోయింది. వాటి ధరలో తగ్గదల శాతం?
    - 1) 10
    - 2) 15
    - 3) 20
    - 4) 25
  - 3;** గత సంవత్సరం 1000 వస్తువుల ధర = రూ. 5000  
ప్రస్తుత సంవత్సరం ధర = రూ. 4000  
తగ్గిన ధర =  $5000 - 4000 = 1000$   
తగ్గిన శాతం =  $\frac{1000}{5000} \times 100 = 20\%$
  - 49, 48, 15, 20, 28, 17, 15, 110ల మధ్యగతం ఎంత?
    - 1) 20
    - 2) 28
    - 3) 17
    - 4) 24
  - 4;** 49, 48, 15, 20, 28, 17, 15, 110ల మధ్యగతం ఆరోహణ క్రమంలో రాస్తే  
15, 15, 17, 20, 28, 48, 49, 110  
రాశుల సంఖ్య = 8  
మధ్యగతం =  $\frac{n}{2}, \frac{n}{2} + 1$  వ రాశుల సగటు  
 $= \frac{4+5}{2} = \frac{9}{2} = 4.5$
  - $3^x = 5$  అయితే  $3^{x+3}$  విలువ?
    - 1) 27
    - 2) 81
    - 3) 135
    - 4) 243
  - 3;**  $3^x = 5$   
 $3^{x+3} = 3^x \cdot 3^3$   
 $= 5 \cdot 3^3 = 5 \times 27 = 135$
  - ఒక చతుర్భుజంలోని కోణాలు  $x^\circ, (x+10)^\circ, (x+20)^\circ, (x+30)^\circ$  అయితే x విలువ?
    - 1) 75°
    - 2) 85°
    - 3) 65°
    - 4) 90°

- 1;** చతుర్భుజంలోని కోణాల మొత్తం =  $360^\circ$   
 $x^\circ + (x+10)^\circ + (x+20)^\circ + (x+30)^\circ = 360^\circ$   
 $4x + 60^\circ = 360^\circ$   
 $4x = 360^\circ - 60^\circ$   
 $4x = 300^\circ$   
 $x = 75^\circ$
- ఒక దత్తాంశములోని 9 రాశుల సగటు 45 అని తెలిపారు. గణనలో ఒక రాశి 24ను 42 గా పొరపాటుగా తెలిపినచో 9 రాశుల అసలు సగటు?
  - 1) 43
  - 2) 34
  - 3) 53
  - 4) 44
- 1;** 9 రాశుల సగటు = 45  
9 రాశుల మొత్తం =  $45 \times 9 = 405$   
9 రాశుల అసలు సగటు =  $\frac{405 + 24 - 42}{9} = \frac{387}{9} = 43$
- ఒక త్రిభుజం ఎత్తు దాని భూమికి రెండు రెట్లు ఉంది. త్రిభుజ వైశాల్యము 400 చ.సెం.మీ. అయిన ఆ త్రిభుజము భూమి (సెం.మీ.లలో)
  - 1) 15
  - 2) 25
  - 3) 20
  - 4) 30
- 3;** త్రిభుజం ఎత్తు = h  
భూమి = b  
h = 2b  
త్రిభుజ వైశాల్యం =  $\frac{1}{2}bh$   
 $= \frac{1}{2} \times b \times 2b$   
 $\frac{2b^2}{2} = 400$   
 $b^2 = 400$   
b = 20 సెం.మీ.
- $\Delta ABC \cong \Delta PQR, AB = (2x + 5)$  సెం.మీ., PQ = 25 సెం.మీ. అయితే x విలువ (సెం.మీ.లలో)?
  - 1) 10
  - 2) 20
  - 3) 30
  - 4) 40
- 1;**

$\Delta ABC \cong \Delta PQR$   
 $\therefore AB = PQ$   
AC = PR  
BC = QR  
 $2x + 5 = 25$   
 $2x = 20$   
 $x = 10$  సెం.మీ.
- సూచిత రూ. 5000 లను 12% వడ్డీకి అప్పుగా తీసుకొంది. 1 సంవత్సరం తర్వాత ఆమె చెల్లించవలసిన వడ్డీ (రూపాయలలో)?
  - 1) 800
  - 2) 700
  - 3) 750
  - 4) 600
- 4;** P = రూ. 5000  
r = 12%  
t = 1 సంవత్సరం  
 $I = \frac{Ptr}{100} = \frac{5000 \times 12}{100} = 600$
- కింది వానిలో పైథాగోరియస్ త్రికం?
  - 1) 2, 3, 5
  - 2) 9, 10, 11
  - 3) 3, 4, 5
  - 4) 6, 8, 9
- 3;** పైథాగోరియస్ త్రికం  
 $2^2 + 3^2 \neq 5^2$   
 $9^2 + 10^2 \neq 11^2$   
 $3^2 + 4^2 = 5^2$   
 $6^2 + 8^2 \neq 9^2$   
 $\therefore$  పైథాగోరియస్ త్రికం 3, 4, 5
- 4096 ఘన మూలానికి సమానమైనది?
  - 1) 18
  - 2) 16
  - 3) 26
  - 4) 36
- 2;**  $\sqrt[3]{4096}$   
 $\frac{214096}{212048}$   
 $\frac{211024}{21512}$   
 $\frac{21256}{21128}$   
 $\frac{2164}{2132}$   
 $\frac{2116}{218}$   
 $\frac{214}{2}$   
 $\sqrt[3]{4096}$   
 $\sqrt[3]{2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2}$   
 $= 2 \times 2 \times 2 \times 2$   
 $= 16$
- $x - \frac{1}{x} = 0$  అయితే  $x + \frac{1}{x}$  విలువ?
  - 1) 1
  - 2) 2
  - 3) -3
  - 4) 3
- 2;**  $\left(x + \frac{1}{x}\right)^2 = \left(x - \frac{1}{x}\right)^2 + 4(x) \left(\frac{1}{x}\right)$   
 $\left(x + \frac{1}{x}\right)^2 = (0)^2 + 4$   
 $\left(x + \frac{1}{x}\right)^2 = 4 \Rightarrow x + \frac{1}{x} = 2$

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# The axiom that is used in the passage is...



**K. Lalitha Bai**  
Subject Expert

## MODEL QUESTIONS

**Directions (Q. 1-10)** Read the following passage carefully and answer the questions given below it. Certain words have been printed in bold to help you locate them while answering some of the questions.

To believe a proposition, say corn flakes have health benefits, is to accept it to be true. However, the question of belief is valid only for those propositions that are understandable. An understandable proposition is one that is expressed using correct grammar and known words.

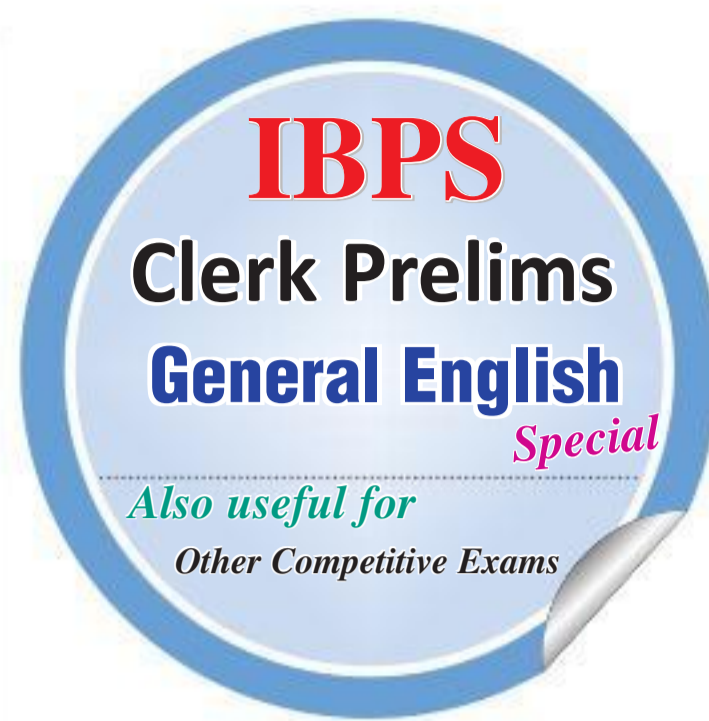
The dominant view in the scientific community on how human mind believes or disbelieves an understandable proposition is the Cartesian hypothesis, propounded by the seventeenth-century philosopher René Descartes. He said that when an understandable proposition is presented to a human mind, the comprehension of its content happens automatically and passively; however, the assessment of the truth-value of that proposition is a later and deliberate act, the result of which is either belief or disbelief. Thus, this view holds that belief or disbelief in a comprehended proposition is created by rational assessment, and till such an assessment is made, the intellect neither affirms nor denies a comprehended proposition. It also suggests that the mental effort required to create belief and disbelief

is the same: the effort required to assess the comprehended proposition.

In contrast, Descartes's near-contemporary Baruch Spinoza suggested that comprehension of and belief in an understandable proposition happen together, automatically and **passively**; he said that it is not possible to understand a proposition without, at least temporarily, accepting it to be true. On later, willful assessment, if one judges the believed proposition to be false, it may be unaccepted (disbelieved), and if judged to be true, one may continue to believe in it. Thus, as per the Spinozan hypothesis, the default setting of the human mind is to believe every understandable proposition that is presented to it; disbelief is possible but it comes - if it comes at all - from effortful, deliberate assessment done after the initial comprehension-belief.

Both hypotheses continue to have their proponents and opponents. It is, however, a common observation that doubt, suspension of judgment and disbelief are mentally taxing tasks while we naturally - effortlessly - accept and believe most of what we see, hear and read. Research has proved that we systematically **err** on the side of believing too much, as opposed to rejecting too much. This inherent **credulity** of the human mind is, in fact, the founding axiom of the fields of advertising and propaganda.

- The author of the passage -
  - Supports the Cartesian hypothesis
  - Supports the Spinozan hypothesis
  - Has a neutral stance towards



- the two hypotheses
  - Rejects both the hypotheses
  - Belongs to the scientific community
- A supporter of the Cartesian hypothesis would probably agree with which one of the following statements?
  - Understanding a proposition is one thing and believing another
  - Believing is the most effortful thing that a human mind does
  - Belief is more quickly and easily acquired than doubt
  - Human beings are more prone to rejecting than believing propositions
  - Human beings are skeptical

- and credulous in equal measure
- Unlike the Spinozan hypothesis, the Cartesian hypothesis suggests that at any point in time, a human mind may contain some
  - ununderstood propositions that are believed
  - ununderstood propositions that are neither believed nor disbelieved
  - understood propositions that are believed
  - understood propositions that are disbelieved
  - understood propositions that are neither believed nor disbelieved
- Which of the following statements about an understandable and false proposition is not supported by the Spinozan hypothesis?
  - Its comprehension is a pre-requisite for its rejection.
  - Its comprehension does not require effort.
  - Its acceptance occurs before its rejection.
  - Its comprehension is automatically followed by its acceptance.
  - Its rejection does not happen automatically.
- The antonym of passively is
  - inertly
  - reflexively
  - inefficiently
  - aggressively
  - deliberately
- The synonym of err is
  - go astray
  - accuracy
  - truth
  - precision
  - care
- The synonym of credulity is
  - guilt
  - remorse
  - compunction
  - gullibility
  - scruple
- The antonyms of which of the

following words are found in the passage?

- belief, affirm
  - accept, proponent
  - naturally, temporarily
- only c
  - both a& c
  - both a& b
  - both b& c
  - a, b & c
- The axiom that is used in the passage is
    - Corn flakes have health benefits
    - Accept and believe what we see, hear and read
    - Rejection does not happen automatically.
    - Comprehension does not require effort.
    - The intellect neither affirms nor denies a proposition.
  - It can be inferred from the passage that to make his target customers believe his advertisements, an advertiser should
    - convey the message only using words familiar to the target customers
    - convey the message using the traditional motifs of the target customers
    - not use any negative words in his message
    - not distract the customer's mind by use of images or stories
    - not overwhelm the customer's mind by presenting a lot of information

### KEY

- 3
- 1
- 5
- 4
- 4
- 1
- 4
- 3
- 1
- 10



**K. M. Jaya Rao**  
Subject Expert

## Reasoning

**Directions (Q.No.1-5):** In these questions, relationships between different elements are shown in the statements. These statements are followed by two conclusions.

Give answer

- if only conclusion I follows
- if only conclusion II follows
- if either conclusion I or conclusion II follows
- if neither conclusion I nor conclusion II follows
- if both conclusions I and II follow

- Statement:**  
 $R \geq S \geq T > U > X; T < V < W$   
**Conclusions:** I.  $R > X$  II.  $X < W$
- Statement:**

$E = F < G < H; G \geq I$   
**Conclusions:** I.  $H > I$  II.  $E > I$

- Statement:**  
 $A > B > F > C; D > E > C$   
**Conclusions:** I.  $C < A$  II.  $B > D$
- Statement:**  
 $K \leq L \leq M = N; P \geq O \geq N$   
**Conclusions:**  
I.  $K < P$  II.  $K = P$
- Statement:**  
 $D < E < F < G; K > F$   
**Conclusions:** I.  $K \leq G$  II.  $K > D$

**Directions (Q.No.6-10):** Study the following information carefully and answer the questions given below:

- $B 7 ? S @ A N \odot 3 9 D K I * G \$ M Q E 6 H 1 Y 8 2 \# U J 4 T R$
- How many such symbols are there in the above arrangement each of which is immediately preceded by a number and

immediately followed by a letter?

- None
  - One
  - Two
  - Three
  - More than three
- If all the numbers are dropped from the above arrangement which of the following will be the eleventh element from the left end?
    - K
    - \*
    - D
    - I
    - None of these
  - Which of the following is the ninth to the right of twenty-second from the right end of the given arrangement?
    - #
    - H
    - 8
    - E
    - None of these
  - How many such consonants are there in the above arrangement each of which is immediately preceded by a number and immediately followed by another consonant?
    - None
    - One
    - Two
    - Three
    - More than three

- None
  - One
  - Two
  - Three
  - More than three
- Four of the following five are alike in a certain way based on

their positions in the above arrangement and so form a group.

- \$ Q I
- U 4 8
- @ N ?
- \*\$ D
- 3 DA

### SOLUTIONS

(Q. 1- 5):

- 5;**  $R > X$ . Hence, Conclusion I follows.  
 $W > V > T > U > X$ . Hence,  $W > X$ . So, conclusion II follows.
- 1;**  $H > G \geq I \rightarrow H > I$ . Conclusion I follows.  
 $E & I$  cannot be compared. Conclusion II does not follow.
- 1;** Conclusion I follows.  
 $B & D$  cannot be compared. So, Conclusion II does not follow.

**4. 3;**  $K \leq L \leq M = N \leq O \leq P$   
Hence, Either I or II follows.

**5. 2;**  
 $G > F < K$   
 $K & G$  cannot be compared. Conclusion I does not follow.  
 $D > E < F < K$ . Hence, Conclusion II follows.

(Q. 6- 10):  
**6. 3;**  $7 ? S, 2 \# U$   
**7. 2;** \*  
**8. 4;** Required Element  
 $= 22 - 9 = 13^{th}$  from right end  
 $= E$   
**9. 3;** 9 D K, 4 T R  
**10. 3;**