

MAHARAJA RANJIT SINGH AFPI – 2015

*** ENGLISH ***

Q.1 Choose the correct option.

Not to _____ of milk, even _____ was not there.

- (1) talk, bread (2) mention, rice
(3) speak, water (4) discuss, tea

Q.2 From the given words, choose a word which means almost the same as the word given.

UNCOUTH

- (1) Ungraceful (2) Rough
(3) Wasteful (4) Slovenly

Q.3 From the given words, chooses the one which is most appropriate so that the sentence not only makes sense, but also is grammatically correct.

He _____ out the two candles in one breath.

- (1) extinguish (2) lit
(3) snuffed (4) threw

Q.4 From the given words, chooses the one which is most appropriate so that the sentence not only makes sense, but also is grammatically correct.

A chemist, in the olden days, was called an _____.

- (1) Physicist (2) owl
(3) alchemist (4) egoist

Q.5 Choose the correct option.

The doctor tried both pencillin and sulphamilamide; the pencillin proved to be the _____ effective drug.

- (1) very (2) best
(3) more (4) most

Q.6 Read the passage and answer the question by choosing the right answer.

The school is primarily a social institution. Education being a social process, the school is simply that form of community life in which all those agencies are concentrated which will be most effective in bringing the child to share in the inherited resources of the race, and to use his/ her own powers for social ends.

This paragraph best supports the statement that:

- (1) Education is a process of living and not a preparation for future living.
(2) Education in the real sense is not provided in our school today.
(3) Education teaches how to share the inherited treasure.
(4) Children are endowed with immense powers.

Q.7 From the given words, chooses the one which is most appropriate so that the sentence not only makes sense, but also is grammatically correct.

A light rain _____ to the humidity.

- (1) supplement (2) added
(3) increase (4) went

Q.8 From the given words, choose a word that is most opposite in meaning to the word given.

INFALLIBLE

- (1) Unreliable (2) Dubious
(3) Untrustworthy (4) Erring

Q.9 From the given words, choose the one which is most appropriate so that the sentence not only makes sense, but also is grammatically correct.

The South African blacks are no longer quietly bearing the _____ of tyranny.

- (1) yoke (2) oppression
(3) weight (4) battle

Q.10 Choose the exact meaning of idiom/ phrase

He burnt his fingers by interfering in his neighbour's affairs.

- (1) got himself into trouble
(2) burnt himself
(3) got himself insulted
(4) got rebuked

Q.11 From the given words, chooses the one which is most appropriate so that the sentence not only makes sense, but also is grammatically correct.

The prisoner was released on _____ for good behavior.

- (1) bailed (2) parole
(3) guarantee (4) grounds

Q.12 From the given words, choose a word which means almost the same as the word given.

LAUD

- (1) Lord (2) Lewd
(3) Eulogy (4) Praise

Q.13 From the four words, choose the misspelt word.

- (1) Confiscate (2) Seismology
(3) Pituitary (4) Bonanza

Q.14 From the four words, choose the misspelt word.

- (1) Influenza (2) Adolescence
(3) Galore (4) Secularism

Q.15 Choose the exact meaning of idiom/ phrase:

I saw him make a wry face.

- (1) Abuse (2) feel sick
(3) cry with pain (4) show disappointment

Q.16 From the given words, choose a word which means almost the same as the word given.

LAVISH

- (1) Expensive (2) Liberal
(3) Slavish (4) Miserly

Q.17 From the given words, choose a word that is most opposite in meaning to the word given.

MASCULINE

- (1) Womanish (2) Effeminate
(3) Unmanly (4) Feminine

Q.18 Choose the correct option.

Only _____ people are _____ after death.

- (1) brave, forgotten (2) vicious, admired
(3) virtual, known (4) virtuous, remembered

Q.19 Make a meaningful sentence.

The coconut tree, therefore,

P: in the lives of the people of Kerala

Q: plays a very important part

R: where coconuts

S: grow well

- (1) QPRS (2) PSRQ
(3) SRQP (4) RQPS

Q.20 From the given words, choose a word that is most opposite in meaning to the word given.

AFFLUENCE

- (1) Indigence (2) Starvation
(3) Pauper (4) Beggary

Q.21 Choose the correct option.

Ravi's behavior is worthy of _____ by all the youngsters.

- (1) emulation (2) following
(3) exploration (4) experiment

Q.22 From the given words, choose the one which is most appropriate so that the sentence not only makes sense, but also is grammatically correct.

It was his _____ nature which made him continue where most would have given up.

- (1) divine (2) stubborn
(3) good (4) ill

Q.23 Choose the exact meaning of idiom/ phrase.

BLUE BLOOD

- (1) Something impossible
(2) An aristocrat
(3) Something costly
(4) A funny object

Q.24 Read the passage and answer the question by choosing the right answer.

In the final analysis, the wealth of a country is based upon its power to develop and to effectively utilize the innate capacities of its people. It takes skilled human agents to discover and exploit natural resources, to mobilize capital, to develop technology, to produce goods, and to carry out trade. Indeed, if a country is unable to develop its human resources, it cannot build anything else, whether it be a modern political system, a sense of national unity, or a prosperous country.

This paragraph best supports the statement that:

- (1) The wealth of a country resides in several types of resources.
(2) Natural resources play a vital role in human development.

(3) Human resources constitute the ultimate basis for the wealth of nation.

(4) Capital and natural resources are active factors of production.

Q.25 Choose the exact meaning of idiom/ phrase.

The leader must have the lion's share of the booty.

- (1) The stronger one (2) The smaller part
(3) The worthy part (4) The largest part

Q.26 Choose the exact meaning of idiom/ phrase.

Flesh and blood can bear it no longer.

- (1) Human nature (2) Warning
(3) In life (4) At the top speed

Q.27 Choose the correct option.

After having tea, he settled himself _____ his arm chair.

- (1) on (2) in
(3) over (4) into

Q.28 From the four words, choose the misspelt word.

- (1) Subsidiary (2) Subsidairy
(3) Viceroy (4) Substantial

Q.29 Make a meaningful sentence.

Copra is good

P: because it contains so much oil

Q: and it is nourishing

R: when it has been dried

S: to eat, both fresh and

- (1) PSRQ (2) QPSR
(3) RQPS (4) SRQP

Q.30 Choose the correct option.

The children were disappointed because they had hoped _____ with us.

- (1) to have gone (2) to go
(3) to went (4) would have gone

Q.31 From the given words, choose a word that is most opposite in meaning to the word given.

GLORIOUS

- (1) Shameful (2) Cowardly
(3) Ignominious (4) Humiliating

Q.32 From the four words, choose the misspelt word.

- (1) Definatly (2) Discipline
(3) Derived (4) Embarrass

Q.33 From the given words, choose a word which means almost the same as the word given.

FABLE

- (1) Invention (2) Table
(3) Maple (4) Tale

Q.34 Choose the correct option.

The _____ is working on wood.

- (1) artist (2) artistic
(3) artifact (4) artisan

Q.35 Make a meaningful sentence.

The men

P: in cutting out the white kernel

Q: are very skilful

R: who split open the ripe nuts

S: with their sharp knives

(1) SQPR (2) PRSQ

(3) RQPS (4) QPRS

Direction (Question.36 to 41) : Read the passage and answer the questions.

Our body is a wondrous mechanism and when subjected to unusual stress over a period of time, it adapts itself to deal more effectively with that stress. Therefore, when you exert your muscles against resistance, they are forced to adapt and deal with this extraordinary work load. This is the principle of weight training. Strands of muscle fibers become thicker and stronger in response to the demands placed on them.

One of the great merits of weight training is the strength of your heart. During weight training, your heart is forced to beat faster and stronger in order to pump sufficient blood to the muscles being worked. In time, your heart, like your body, will adapt to this extra-workload by becoming stronger and more efficient. Since your body needs a given amount of blood to perform its daily tasks your heart will now need fewer beats to pump the same quantity of blood. Sounds good? There's more. Your entire circulatory system is given a thorough workout every time you exercise, which increases its overall efficiency. Even the neural paths from your brain's command centers to each individual muscle become more effective, enabling easier recruitment of muscle fibers for carrying out physical tasks. In essence, your body becomes a well-oiled and finely-tuned piece of machinery, whirring along without any breakdown. In today's stress filled world, you need all help you can get.

Q.36 What affects the nature of muscle fibres?

- (1) Intensity of workload
- (2) Alimentary system
- (3) Nutrition
- (4) Stress imposed on them

Q.37 What happens to our body due to physical exercise?

- (1) More efficient
- (2) Less efficient
- (3) Efficiency of the body remains the same
- (4) None of these

Q.38 What does the term "well-oiled" in the passage denote?

- (1) Healthy (2) Efficient
- (3) Massaged (4) None of these

Q.39 How much blood does the heart pump at the same number of heartbeats, when exposed to excessive stress?

- (1) Same quantity (2) Less than before

- (3) More than normal (4) None of these

Q.40 What is the principle of weight training?

- (1) Adapting the body to muscle force
- (2) Adapting muscles to force implied on them
- (3) Disposing extra-workload
- (4) Mechanised response to external conditions

Q.41 How does the heart become stronger owing to physical exercise?

- (1) Through acclimatization
- (2) Naturalisation
- (3) Adapting to excessive workload
- (4) By accelerating the circulation of blood

Q.42 Determine the relationship between the pair of words and select the pair of words, which have a similar relationship. **Success : Elation**

- (1) Victory : Celebration (2) Pleasure : Pain
- (3) Debacle : Dejection (4) Inspect : Inspection

Q.43 Determine the relationship between the pair of words and select the pair of words, which have a similar relationship. **Crown : King**

- (1) Mitre : Priest (2) Flower : Gardener
- (3) Pen : Student (4) Words : Dictionary

Q.44 The following sentence has three parts, indicated by 1, 2 and 3. Read the sentence to find out whether there is an error in any of the parts. If the sentence has no error, mark your answer as 4.

Hardly he had arrived (1)/ when the house caught fire (2)/ and everything was reduced to ashes. (3)/ No error (4)

Q.45 Determine the relationship between the pair of words and select the pair of words, which have a similar relationship. **Book : Reader**

- (1) Cloth : Draper (2) School : Student
- (3) Tea : Vendor (4) Play : Spectator

Q.46 The following sentence has three parts, indicated by 1, 2 and 3. Read the sentence to find out whether there is an error in any of the parts. If the sentence has no error, mark your answer as 4.

Bread and butter (1)/ is (2)/ wholesome food. (3)/ No error (4)

Q.47 The following sentence has three parts, indicated by 1, 2 and 3. Read the sentence to find out whether there is an error in any of the parts. If the sentence has no error, mark your answer as 4.

It is high time (1)/ that we send (2)/ the answer. (3)/ No error (4)

Q.48 Determine the relationship between the pair of words and select the pair of words, which have a similar relationship. **Hands : Gloves**

- (1) Legs : Shoes (2) Fish : Water
- (3) Socks : Feet (4) Bank : Frog

Q.49 The following sentence has three parts, indicated by 1, 2 and 3. Read the sentence to find out whether there is an error in any of the parts. If the sentence has no error, mark your answer as 4.

The angry man walked hurriedly (1)/ into the crowded room (2)/ and shouted loud at the guests. (3)/ No error (4)

Q.50 The following sentence has three parts, indicated by 1, 2 and 3. Read the sentence to find out whether there is an error in any of the parts. If the sentence has no error, mark your answer as 4.

If my father (1)/ will approve (2)/ I will go to Mumbai. (3)/ No error (4)

***** MATHEMATICS *****

Q.51 Five bells begin to toll together and toll respectively at intervals of 6, 7, 8, 9 and 12 seconds. How many times they will toll together in one hour, excluding the one at the start.

- (1) 3 (2) 5
(3) 7 (4) 9

Q.52 If $P - 1, P + 3, 3P - 1$ are in A.P, then P is equal to:

- (1) 4 (2) -4
(3) 2 (4) -2

Q.53 If the point $P(2, 1)$ lies on the line segment joining points $A(4, 2)$ and $B(8, 4)$ then:

- (1) $AP = \frac{1}{3} AB$ (2) $AP = PB$
(3) $PB = \frac{1}{3} AB$ (4) $AP = \frac{1}{2} AB$

Q.54 The sum to 100 terms of $(1 - 2 + 3 - 4 + 5 \dots)$ is:

- (1) -50 (2) -500
(3) -100 (4) -1000

Q.55 If $f(x) = 3x - 2$, find the value of $[f(f(f(2)))]$.

- (1) 28 (2) 10
(3) 4 (4) 82

Q.56 If α, β are zeroes of the polynomial $f(x) = ax^2 + bx + c$, then $\frac{1}{\alpha^2} + \frac{1}{\beta^2} = ?$

- (1) $\frac{b^2 - 2ac}{a^2}$ (2) $\frac{b^2 - 2ac}{c^2}$
(3) $\frac{b^2 + 2ac}{a^2}$ (4) $\frac{b^2 + 2ac}{c^2}$

Q.57 If in a code language TELEVISION is coded as SDKDUHRHNM, then in the same language REFRIGERATOR will be coded as:

- (1) ADEQJFDQZSNQ (2) QDEQHFDQZUNQ
(3) QDEQHFDQZSNQ (4) QCDQHFDQZSNQ

Q.58 The area of the triangle formed by the line $\frac{x}{a} + \frac{y}{b} = 1$ with the co-ordinates axes is:

- (1) ab (2) $2ab$
(3) $\frac{1}{2} ab$ (4) $\frac{1}{4} ab$

Q.59 Choose the odd numerical pair:

- (1) $81 - 63$ (2) $48 - 24$
(3) $21 - 15$ (4) $39 - 13$

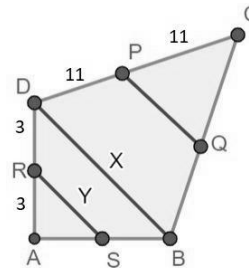
Q.60 If on division of polynomial $p(x)$ by a polynomial $g(x)$, quotient is zero, what is the relation between the degrees of $p(x)$ and $g(x)$:

- (1) $\deg g(x) < \deg p(x)$ (2) $\deg g(x) = \deg p(x)$
(3) $\deg g(x) = 0$ (4) $\deg p(x) < \deg g(x)$

Q.61 Find the fourth proportional to $p^2 - pq + q^2, p^3 + q^3, p - q^2$

- (1) $p^2 - q^2$ (2) pq
(3) $p + q$ (4) $p^2 + q^2$

Q.62 In figure, $RS \parallel DB \parallel PQ$. If $CP = PD = 11$ cm and $DR = RA = 3$ cm. Then the values of x and y are respectively.



- (1) 12, 10 (2) 14, 6
(3) 10, 7 (4) 16, 8

Q.63 If the system of equation $2x + 3y = 7$ and $2ax + (a + b)y = 28$ has infinitely many solutions, then:

- (1) $a = 2b$ (2) $b = 2a$
(3) $a + 2b = 0$ (4) $2a + b = 0$

Q.64 $(36 + 64)^{\frac{1}{2}} + (1 + 4^{\frac{3}{2}})^{\frac{1}{2}} + \sqrt{20} + \sqrt{45}$ equals to:

- (1) $13 + 2\sqrt{5}$ (2) $10 + 5\sqrt{5}$
(3) $10 + 2\sqrt{5}$ (4) $13 + 5\sqrt{5}$

Q.65 Write the next term from the given options: 2Z5, 7Y7, 14X9, 23W11, 34V13, _____.

- (1) 27U24 (2) 47U15
(3) 45U15 (4) None of these

Q.66 In the following sequence of instructions 1 stands for Run, 2 stands for Stop, 3 stands for Go, 4 stands for Sit and 5 stands for Wait. If the sequence were to continue, then which instruction will come next?
4 4 5 4 5 3 4 5 3 1 4 5 3 1 2 4 5 4 5 3 4 5 3

- (1) Wait (2) Sit
(3) Run (4) Stop

Q.67 If February 1, 1996 is Wednesday, what day is March 3, 1996?

- (1) Monday (2) Sunday
(3) Saturday (4) Friday

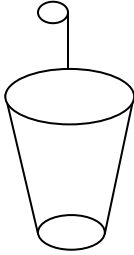
Q.68 If the radii of the circular ends of a bucket of height 40 cm are of lengths 35 cm and 14 cm respectively, then the volume of the bucket in cubic centimeters is:

- (1) 60060 (2) 80080
 (3) 70040 (4) 80160

Q.69 Find the next term: 13, 35, 57, 79, 911, ____.

- (1) 1911 (2) 1191
 (3) 1113 (4) 1131

Q.70 A bucket is raised from a well by means of a rope, which is wound a wheel of diameter 77 cm. Given that the bucket ascends in 1 minute 28 seconds with a uniform speed of 1.1 m/s. Calculate the number of complete revolutions the wheel makes in raising the bucket.



- (1) 10 (2) 20
 (3) 30 (4) 40

Q.71 If 'tee see pee' means 'drink fruit juice', 'see kee lee' means 'juice is sweet' and 'lee ree mee' means 'he is intelligent', which word in that language means 'sweet'?

- (1) see (2) kee
 (3) lee (4) pee

Q.72 A number is selected at random from the numbers 3, 5, 5, 7, 7, 7, 9, 9, 9, 9. The probability that selected number is their average, is:

- (1) $\frac{1}{10}$ (2) $\frac{3}{10}$
 (3) $\frac{7}{10}$ (4) $\frac{9}{10}$

Q.73 If 'P # Q' means that P is a brother of Q, 'P * Q' means that P is the father of Q, 'P @ Q' means that P is the sister of Q, 'P \$ Q' means that P is the mother of Q. Which of the following means 'X' is the maternal uncle of 'Y'?

- (1) X # Z * Y (2) X # Z \$ Y
 (3) X * Z # V \$ Y (4) X # V \$ Z * Y

Q.74 A man walks 1 km towards East and then he turns to South and walks 5 km. Again he turns to East and walk 2 km. After this he turns to North and walks 9 km. Now, how far he is from his starting point?

- (1) 3 km (2) 4 km
 (3) 5 km (4) 7 km

Q.75 If $a \cos \theta - b \sin \theta = c$, then $a \sin \theta + b \cos \theta = ?$

- (1) $\pm \sqrt{a^2 + b^2 + c^2}$ (2) $\pm \sqrt{c^2 - a^2 - b^2}$
 (3) $\pm \sqrt{a^2 + b^2 - c^2}$ (4) None of these

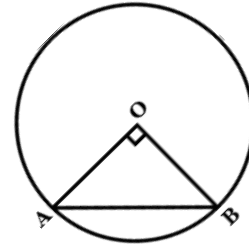
Q.76 In the given equation, two signs have been interchanged. Find out these two signs to make the equation correct: $12 + 15 - 3 \times 4 \div 8 = 24$.

- (1) - and + (2) - and \div
 (3) \times and \div (4) \times and +

Q.77 Two persons are 'a' meters apart and the height of one is double that of the other. If from the middle point of the line joining their feet, an observer finds the angular elevation of their tops to be complementary, then the height of the shorter person is:

- (1) $\frac{a}{4}$ (2) $\frac{a}{\sqrt{2}}$
 (3) $a\sqrt{2}$ (4) $\frac{a}{2\sqrt{2}}$

Q.78 In the given figure, find the area of minor segment region, if $AB = 10\sqrt{2}$.



- (1) $50(\pi - 2) \text{ cm}^2$ (2) $25(\pi - 2) \text{ cm}^2$
 (3) $25(\pi + 2) \text{ cm}^2$ (4) $5(\pi - 2) \text{ cm}^2$

Q.79 If mean of first 'n' natural numbers is $\frac{5n}{9}$, then n = ?

- (1) 5 (2) 4
 (3) 9 (4) 10

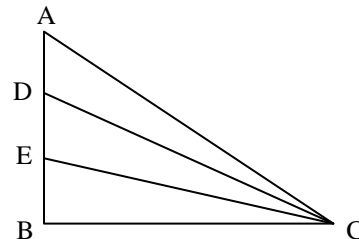
Q.80 The quotient when 100^{100} is divided by 50^{50} is:

- (1) 50^{50} (2) 50^{100}
 (3) 200^{50} (4) 400^{50}

Q.81 Ramesh is ranked 35th in class of 50 students. What is his rank from the bottom?

- (1) 15th (2) 16th
 (3) 14th (4) 17th

Q.82 Triangle ABC is right angled at B, and side AB is divided into three equal parts by point D and E. Find $\frac{AC^2 - EC^2}{DC^2 - BC^2}$



- (1) 2 (2) $\frac{9}{4}$
 (3) $\frac{5}{2}$ (4) 3

Q.83 The distance between the points $(a \cos 25^\circ, 0)$ and $(0, a \cos 65^\circ)$ is:

- (1) a (2) 2a
 (3) 3a (4) 5a

Q.84 If a wire is bent into the shape of a square, then the area enclosed by the square is 81 cm^2 . When the same

wire is bent into a semi-circular shape, then the area enclosed by the semi-circle:

- (1) 22 cm^2 (2) 44 cm^2
 (3) 77 cm^2 (4) 154 cm^2

Q.85 If $2009 = p^a \times q^b$, where 'p' and 'q' are prime numbers then find value of $p + q$:

- (1) 3 (2) 51
 (3) 2009 (4) 48

Q.86 Five runners Amar, Bhagat, Chander, Deepak and Eeshaan ran a race. They belong to Delhi, Mumbai, Chennai, Kolkata and Hyderabad, though not necessarily in the same order. Bhagat belongs to Delhi but he did not come fourth or fifth in the race. Amar belongs to Mumbai and he came third in the race. One who is from Chennai came first. But he is neither chander nor Deepak. No two persons came on the same place. Who belongs to Kolkata?

- (1) Chander (2) Eeshaan
 (3) Either Chander or Deepak (4) Deepak

Q.87 If $5x = \sec\theta$ and $\frac{5}{x} = \tan\theta$, find value of $5\left(x^2 - \frac{1}{x^2}\right)$.

- (1) 5 (2) $\frac{1}{5}$
 (3) 1 (4) -1

Q.88 The fraction of volume of a cone left after cutting it by a plane parallel to its base at half the height is:

- (1) $\frac{1}{2}$ (2) $\frac{1}{3}$
 (3) $\frac{1}{4}$ (4) $\frac{7}{8}$

Q.89 If $\sqrt{12 + \sqrt{12 + \sqrt{12 + \sqrt{12}}}} \dots \infty = x$, then the value of 'x' is:

- (1) 3 (2) 4
 (3) 6 (4) Greater than 6

Q.90 Select the missing number (?) out of the following option given:

	2	
1	30	3
	4	

	3	
1	84	5
	7	

	4	
2	?	6
	8	

- (1) 128 (2) 85
 (3) 120 (4) 150

Q.91 A measuring jar of internal diameter 10 cm is partially filled with water. Four equal spherical balls of diameter 2 cm each are dropped in it and they sink down in the water completely. The change in the level of water in the jar is:

- (1) $\frac{15}{16}$ cm (2) $\frac{16}{65}$ cm
 (3) $\frac{16}{75}$ cm (4) None of these

Q.92 While selling a watch, a shopkeeper gives a discount of 5%. If he gives a discount of 7%, he earns Rs. 15 less as profit. The marked price of the watch is:

- (1) Rs. 697.50 (2) Rs. 712.50
 (3) Rs. 787.50 (4) Rs. 750.00

Q.93 Complete the series ZYYZR, ABVUM, _____, BCUTL, XWABT, CDTSK.

- (1) ZYABT (2) XWYZR
 (3) YXZAS (4) YXZAB

Q.94 If $2x + 3y = 34$ and $\frac{x+y}{y} = \frac{13}{8}$, then $5y + 7x$ is:

- (1) 82 (2) 75
 (3) 178 (4) 190

Q.95 $16^5 + 2^{15}$ is divisible by:

- (1) 31 (2) 13
 (3) 27 (4) 33

Q.96 What will be the next term in: BDF, CFI, DHL, ?

- (1) CJM (2) EIM
 (3) EJO (4) EMI

Q.97 The remainder when the square of any prime number greater than 3 is divisible by 6 is:

- (1) 1 (2) 3
 (3) 2 (4) 4

Q.98 The first and the last term of an A.P are 'a' and '1' respectively. If 'S' is the sum of all the terms of the A.P and the common difference is $\frac{1^2 - a^2}{k - (1 - a)}$, then 'k' is equal to

- (1) S (2) 3S
 (3) 2S (4) None of these

Q.99 When we multiply a fraction by itself and divide the product by its reciprocal, the fraction thus obtained is $18\frac{26}{27}$. The original fraction is:

- (1) $2\frac{2}{3}$ (2) $\frac{8}{27}$
 (3) $1\frac{1}{3}$ (4) $2\frac{5}{7}$

Q.100 OABC is a rhombus whose three vertices A, B and C lie on a circle with centre O. If radius of the circle is 10 cm, then find area of the rhombus.

- (1) $50\sqrt{2} \text{ cm}^2$ (2) $10\sqrt{3} \text{ cm}^2$
 (3) $50\sqrt{3} \text{ cm}^2$ (4) $100\sqrt{3} \text{ cm}^2$



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