उपलब्धि परीक्षण -२०७५

Achievement Test (2019)

विषय - गणित (Mathematics)

कक्षा -१० (Grade: 10)

Version: B

EMIS ID: **Serial Number:**

विद्यालयको नाम (Name of School):

समय (Time) -१ घण्टा (1 hr)

सबै प्रश्नहरु अनिवार्य छन्।

[Each question is worth one point प्रत्येक प्रश्न एक अङ्कका छन्।

बहुवैकल्पिक प्रश्नहरु (Multiple choice questions)

प्रत्येक प्रश्नमा चार वटा सम्भाब्य उत्तरहरु दिइएको छ। ती चारवटा सम्भाब्य उत्तरहरुमध्ये सही उत्तरमा गोला घेरा (O) लगाउनुहोस्।

Each question has four probable answers. Among the four probable answers, circle (O) the correct answer.

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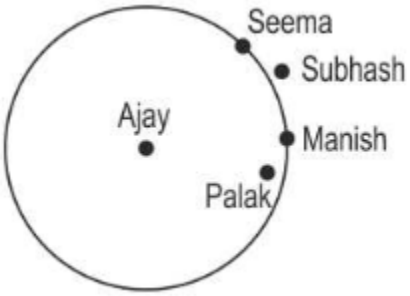
1. In which number does the 8 have the value of 800?
   (तलका मध्ये कुन संख्यामा 8 को स्थानमान 800 बराबर हुन्छ?)
   a. 1,468
   b. 2,587
   c. 3,809
   d. 8,634

2. What is 15×9? (15×9 को मान कति हुन्छ?)
   a. 100
   b. 135
   c. 130
   d. 531

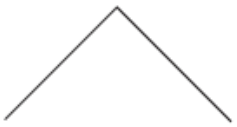
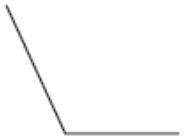
3. What is 27 ÷ 3? (27 ÷ 3 को मान कति हुन्छ?)
    a. 6
    b. 3
    c. 9
    d. 12

4. Five children drew a circle to play a game. At the start of the game, they stood at different locations as shown below. Ajay was at the centre of the circle. (तल चित्रमा देखाए जस्तै पाँच केटाकेटीले कुनै खेल खेल्न एउटा वृत्त बनाए। Ajay त्यसको केन्द्रमा उभियो ।)



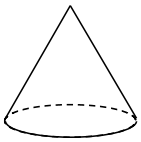
Which two children were at the SAME distance from Ajay?
(Ajay को बराबरी दुरीमा अरु दुई को को केटाकेटी रहेका छन्?)
    a. Seema and Palak
    b. Seema and Manish
    c. Subhash and Palak
    d. Subhash and Manish

5. One of these angles is a right angle. Which one? (तलका मध्ये कुन कोण समकोण हो?)

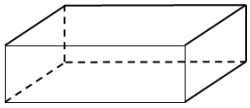
a. 
b.
c.
d. 

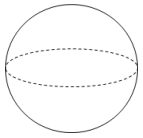
6. How many right angles are there in 270 degrees? (कति वटा समकोण बराबर 270 डिग्री हुन्छ?)
    a. 1
    b. 2
    c. 3
    d. 4

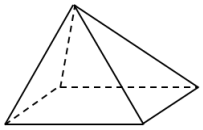
7. Below is a cone. Part of its surface is flat and part of its surface is curved.
(तलको चित्र सोली वा कोनको चित्र हो। यसको केहि भाग समथर र केहि भाग बक्र छ।)

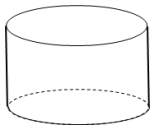


Which of these solids also has a flat surface and a curved surface?
(तलको कुन चित्रमा पनि केहि भाग समथर र केहि भाग बक्र छ?)

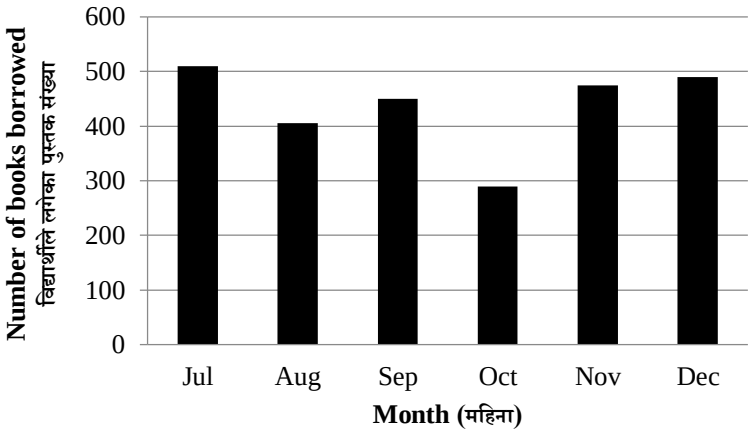
a. 

b. 

c. 

d. 

8. The graph below shows the number of books borrowed from a children's library from July 1 to December 31. (तलको चित्रमा विद्यार्थीले July 1 देखि December 31 सम्म पुस्तकालयबाट लगेका पुस्तकको संख्या देखाइएको छ।)



Which of the following CAN be found out from this graph? (माथिको ग्राफबाट कुन कुरा थाहा पाउन सकिन्छ?)

a. The number of books borrowed between 15th and 30th November
(November 15 देखि 30 सम्म विद्यार्थीले लगेका पुस्तक संख्या)
b. Why such few books were borrowed in October
(October मा विद्यार्थीले किन थोरै पुस्तक लगे भन्ने जानकारी)
c. The number of children who visited the library in August
(August महिनामा पुस्तकालय जाने विद्यार्थीको संख्या)
d. The month(s) in which more than 500 books were borrowed
(500 भन्दा बढी पुस्तक लागिएको महिना)

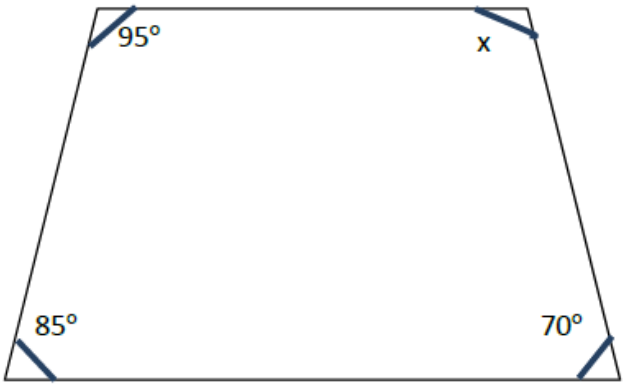
9. If A = {a,e,i, o, u} then what is the value of n(A)? (यदि A = {a,e,i, o, u} भए n(A) को मान कति होला?)
   a. 4
   b. 5
   c. 3
   d. 2

10. What is the sum of mode and median of the following data?
    (तलका तथ्यांकको मध्यिका र रीतको योगफल कति हुन्छ?

    12, 15, 11, 13, 18, 11, 13, 12, 13

   a. 26
   b. 31
   c. 36
   d. 25

11. What is the value of x in the given figure? (तलको चित्रमा x को मान कति हुन्छ?)



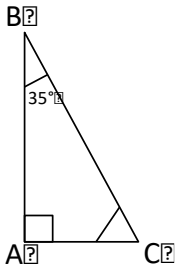
   a. 85°
   b. 110°
   c. 75°
   d. 50°

12. What is the volume of a cube with a side of 2 cm?
(2 cm भुजा भएको घनाकार बस्तुको आयतन कति हुन्छ?)
    a. 16 cm^3
    b. 4 cm^3
    c. 6 cm^3
    d. 8 cm^3

13. If the volume of a cube is 216 cubic cm, what will be the side of the cube?
(यदि कुनै घनाकार बस्तुको आयतन 216 क्युबिक से.मि भए, त्यसको एउटा भुजाको लम्बाइ कति होला?)
    a. 36 cm
    b. 6 cm
    c. 54 cm
    d. 24 cm

14. What is the degree of $x^3y^2+x^4y+xy$?
($x^3y^2+x^4y+xy$ को डिग्रि कति हुन्छ?)
    a. 3
    b. 4
    c. 5
    d. 2

15. What is the measure of angle C in the triangle below? (तलको त्रिभुजमा कोण C को मान कति हुन्छ?)

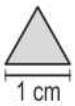


    a. 45°
    b. 55°
    c. 65°
    d. 145°

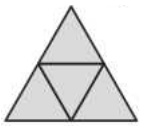
16. It takes Diksha 4 minutes to wash a window. She wants to know how many minutes it will take her to wash 8 windows at this rate. She should: (दिक्षालाई एउटा झ्याल सफा गर्न ४ मिनेट लाग्छ। उनलाई ८ वटा झ्याल त्यहि दरमा सफा गर्न कति समय लाग्छ?
    a. Multiply 4 by 8 (4 लाई 8 ले गुणन गर्ने)
    b. Divide 8 by 4 (8 लाई 4 ले भाग गर्ने)
    c. Subtract 4 from 8 (8 बाट 4 घटाउने)
    d. Add 8 and 4 (8 र 4 जोड्ने)

17. Which of the numbers below is equal to $\frac{7}{10}$? ($\frac{7}{10}$ बराबर तलको कुन मान हुन्छ?)
    a. 70
    b. 7
    c. 0.7
    d. 0.07

18. The figure below shows an equilateral triangle. Its side is 1 cm long. (तलको चित्र समबाहु त्रिभुज हो, जसको एउटा भुजाको नाप 1 cm छ)



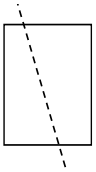
If you arrange four triangles to make a bigger triangle, as shown below, what will be the perimeter of the bigger triangle? (तलको चित्रमा देखाए जस्तै यस्तै किसिमका चार त्रिभुजलाई मिलाएर ठुलो त्रिभुज बनाइएको भए ठुलो त्रिभुजको परिमिति कति होला?)

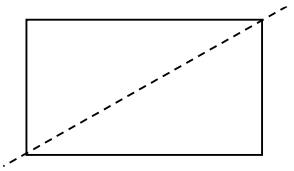


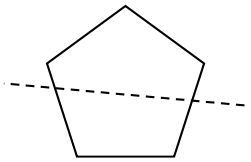
    a. 3 cm
    b. 4 cm
    c. 6 cm
    d. 12 cm

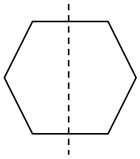
19. Shaheen has 2 pencil boxes. Each box has 5 pencils. How will you find the total number of pencils in the two pencil boxes? (शाहिनसंग 2 वटा पेन्सिल बाकस छन् र प्रत्येक बाकसमा 5 वटा पेन्सिल छन् भने उसंग भएका जम्मा पेन्सिल कसरी निकाल्नुहुन्छ?)
    a. 2 + 5
    b. 5 - 2
    c. 2 × 5
    d. 2 + 2

20. In which of the figures below is the dotted line a line of symmetry? (तलका चित्रहरू मध्येको कुन थोप्ले वाडटेडरेखा सिमेट्री वा आधागर्ने रेखा हो?)

a. 

b. 

c. 

d. 

21. What is the value of x in $3^4=9^x$?
($3^4=9^x$ समीकरणमा x को मान कति हुन्छ)

a. 2
b. 3
c. 4
d. 9

22. Kareena paid x rupees for 3 cartons of juice. What is the price in rupees of 1 carton of juice?
(करिनाले 3 कार्टुन जुसको लागि x रूपियाँ तिरेकी थिइन् भने 1 कार्टुन जुसको मूल्य कति हुन्छ?)

a. $\frac{x}{3}$

b. $\frac{3}{x}$

c. $3+x$

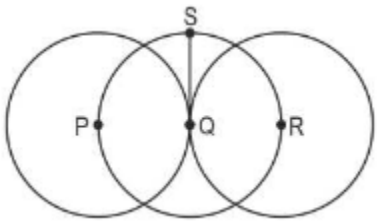
d. $3x$

23. If the universal set U={1,2,3,…10}, A= {factors of 6}, B= {prime number} then which of the following is the set A-B?
(यदि U={1,2,3,…10}, A= {factors of 6}, B= {प्राइमसंख्या}भए समुह A-B को मान तलका मध्ये कुन हो?)

a. {4,5,7,8,9,10}
b. {1,6}
c. {5,7}
d. {1,4,6,8,9,10}

24. 25 ×18 is more than 24 × 18. How much more?
(25 ×18 को मान 24 × 18 को मान भन्दा कतिले बढी छ ?)
    a. 1
    b. 18
    c. 24
    d. 25

25. The figure below has three circles with centres P, Q, and R respectively. (तलको चित्रमा तीनवटा वृत्तका केन्द्रहरूP, Q र R रहेका छन्)



If PR = 8 cm, what is the length of QS? (यदि PR = 8 cm भए QS को लम्बाइ कति होला?)
    a. 3 cm
    b. 4 cm
    c. 5 cm
    d. 6 cm

26. Gautam gave a loan of Rs 20,000 at 10% rate of interest compounded annually. What is the total amount (principal and interest) that she will get after 2 years? (गौतमले कसैलाई बार्षिक 10% का दरले रू 20,000 ऋण दिएको छ जुन प्रत्येक बर्ष मिश्रधनको रुपमा रुपान्तरण हुदै जान्छ। यसअनुसार उसले 2 बर्ष पछी जम्मा कति रकम (साँवा र ब्याज) प्राप्त गर्छ?)
    a. Rs 24,000
    b. Rs 22,000
    c. Rs 4,200
    d. Rs 24,200

27. One year a company reported selling 1426 tons of fertilizer. The following year the company sold 15 percent less fertilizer. Which is the closest approximation to the number of tons of fertilizer sold in the second year? (कुनै बर्ष एउटा कम्पनिले 1426 टन मलखाद बिक्रि गरेछ र अर्को बर्ष त्यस कम्पनिको बिक्रि 15 प्रतिशतले घटेछ भने दोस्रो वर्ष उसले झन्डै कति टन मलखाद बिक्रि गरेछ?)
    a. 200
    b. 300
    c. 1200
    d. 1600

28. Ekta and Beena's current ages are in the ratio 3:5. The sum of their current ages is 80. 10 years from now, what will be the ratio of their ages? (एकता र बिनाको हालको उमेरको अनुपात 3:5 छ। यदि हालको उमेरको योग 80 भए 10 बर्ष पछी उनीहरूको उमेरको अनुपात कति हुन्छ ?)
    a. 1:2
    b. 13:15
    c. 2:3
    d. 4:9

29. Manoj wants to buy 7 tablets. When he was going to pay, the cashier told him that there was a 25% discount on the tablets he was buying. Which mathematical operation(s) is (are) needed to get the amount of money he paid in total? (मनोज एउटा पसलमा ७ वटा ट्याब्लेट किन्न गयो । पैसा तिर्न जाँदा उसलाई पसलेले तोकिएको मूल्यमा 25% छुट दिने कुरा गर्यो । अब उसले तिर्ने जम्मा पैसा गणना गर्न कुन कुन गणितीय क्रिया गर्नुपर्छ?)

    a. Only multiplication (गुणन मात्र)
    b. Multiplication, division, and subtraction (गुणन, भाग र घटाउ)
    c. Division and multiplication (भाग र गुणन)
    d. Addition and subtraction (जोड र घटाउ)

30.

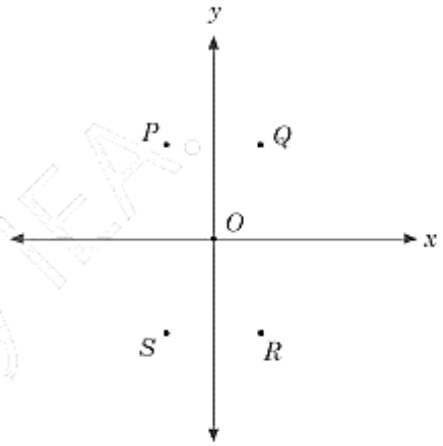
$$y = \frac{a+b}{c}$$

$a = 8$, $b = 6$, and $c = 2$

What is the value of y? (माथिको मानको आधारमा y को मान कति हुन्छ?)

    a. 7
    b. 10
    c. 11
    d. 14

31. In the coordinate plane below, which point could have coordinates (2, -4)? (तलको को-अर्डिनेट सतहमा कुन बिन्दुको को-अर्डिनेट (2, -4) हुन्छ?)

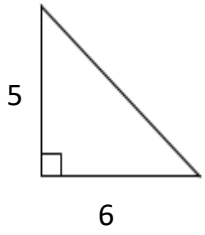


a. P
b. Q
c. R
d. S

32. The sum 691 + 208 is closest to the sum
(691 + 208 को मान तलका कुन योगफलको नजिक हुन्छ?)
a. 600 + 200
b. 700 + 200
c. 700 + 300
d. 900 + 200

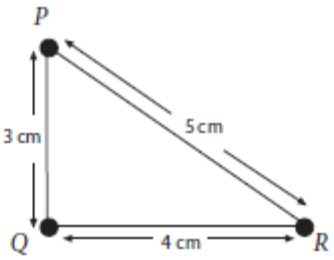
33. $\frac{3}{5} + (\frac{3}{10} \; x \; \frac{4}{15}) = ?$
a. $\frac{3}{51}$
b. $\frac{1}{6}$
c. $\frac{6}{25}$
d. $\frac{17}{25}$

34. Which is the correct area of the given triangle? *(Length of the side is in centimeter)*
(तल देखाइएको त्रिभुजको क्षेत्रफल कति हो (दिएका भुजाका लम्बाई सेन्टिमिटरमा छन्)



a. 30 cm^2
b. 24 cm^2
c. 22 cm^2
d. 15 cm^2

35. Which of these is the reason that triangle *PQR* is a right angle triangle? (त्रिभुज *PQR* एउटा समकोण त्रिभुज हुने कारण निम्नमध्ये कुन हो)



a. $3^2 + 4^2 = 5^2$
b. $5 < 3 + 4$
c. $3 + 4 = 12 - 5$
d. $3 > 5 - 4$