

उपलब्धि परीक्षण (२०७९)
Achievement Test (2022)
विषय : गणित (Mathematics)
कक्षा : ९ (Grade : 9)
SET : A

Time: 1 hour

Serial Number

विद्यालयको नाम (Name of School):

जिल्ला (District):

पालिका:

विद्यार्थीको नाम (Student's Name):

सेक्सन (Section):

खण्ड 'क' (Group A)

[Each question is worth one point. (सबै प्रश्न एक अङ्कका छन्।)]

1. यदि एउटा टोकरीमा १६ वटा आँप थप्दा जम्मा आँपको संख्या ३६ बन्छ भने त्यस टोकरीमा पहिले नै कति वटा आँप थिए ?

If 16 mangoes are added to a basket, the total number of mangoes becomes 36, then how many mangoes were already present in the basket ?

Quantitative reasoning

2. तलका मध्ये कुन संख्यामा ८ को स्थानमान ८०० बराबर हुन्छ ?

In which number does the 8 have the value of 800 ?

a) 1,468

b) 2,587

c) 3,809

d) 8,634

Quantitative reasoning

3. 18×9 को मान कति हुन्छ ?

What is 18×9 ?

Numerical entries

4. $54 \div 7$ को मान कति हुन्छ ?

What is $54 \div 7$?

Numerical entries

5. यदि $A = \{1, 3, 5, 7\}$, $B = \{2, 3, 5, 7\}$ भए $A \cap B$ कति हुन्छ ?

If $A = \{1, 3, 5, 7\}$, $B = \{2, 3, 5, 7\}$ then what is the value of $A \cap B$?

Quantitative reasoning

6. $\frac{4}{100} + \frac{3}{1000} = ?$

a) 0.043

b) 0.1043

Quantitative reasoning

c) 0.403

d) 0.43

7. कुनै बसमा 36 जना यात्रु थिए, जसमा केटाकेटी र बुढापाकाको अनुपात 5:4 थियो ।
त्यसो भए सो बसमा कति केटाकेटी थिए ?

There are 36 passengers on a bus. The ratio of children to adults on the bus is 5:4. How many children are on the bus ?

Problem solving

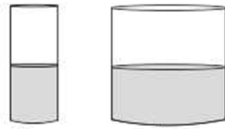
8. यदि 10 ओटा कलमको मूल्य रु 150 भए 15 ओटा कलमको मूल्य कति हुन्छ ?
If the cost of 10 pens is Rs. 150, what is the cost price of 15 pens ?

Quantitative reasoning

9. यदि एउटा रेडियो रु 500 मा बेच्दा रु 100 नाफा हुन्छ भने क्रय मूल्य कति हुन्छ ?
If a radio is sold for Rs. 500, and there is a profit of Rs. 100, then how much is the cost price ?

Quantitative reasoning

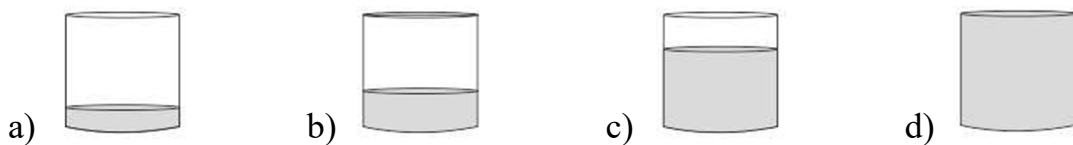
10. तलका चित्रमा बराबर उचाइका गिलास र जार देखाइएको छ र दुबैमा आधा आधा पानीले भरिएको छ । The figure below shows a glass and a jar of equal height. Both are half-filled with water



यदि गिलासको सबै पानी जारको पानीमा थपी दिदाँ तलका मध्ये कुन आकारसंग मिल्दोजुल्दो हुन्छ ?

If you pour all the water from the glass into the jar, which of the figures below shows how the level of water in the jar will look like ?

Logical reasoning



11. कुनै वर्गको परिमिति 24 से.मी. छ भने एउटा भुजाको लम्बाइ कति हुन्छ ?

If a square has a perimeter of 24 cm, then what will be the length of a side? ?

Logical reasoning

12. भुजाको लम्बाइ 6 से.मी. र चौडाइ 4 से.मी. भएको आयतको क्षेत्रफल कति हुन्छ ?

What is the area of the rectangle having length 6 cm and breadth 4 cm ?

Problem solving

13. 14 से.मी. व्यास भएको वृत्तको अर्धव्यास कति हुन्छ ?

What is the radius of a circle with diameter of 14 cm?

a) 7 cm

b) 14cm

c) 28 cm

d) 10 cm

Problem solving

14. यदि कुनै वर्गको भुजा 6 से.मी. भए तलकामध्ये कुनचाहिँ विकर्णको लम्बाई हुन्छ ?

Which one is the length of the diagonal of a square where the length of one side is 6 cm?

a) 6 cm

b) $5\sqrt{2}$ cm

c) 4 cm

d) $6\sqrt{2}$ cm

Problem solving

15. मिराज र महमुद एउटै पसलमा केही किताब र कलम किन्न गए । मिराजले 5 वटा किताब र 2 वटा कलम रु. 74 मा किने । महमुदले 1 पेन र 3 वटा किताबलाई रु. 42 मा किने । कुन जोडी समीकरणले यो अवस्थालाई प्रतिनिधित्व गर्न सक्छ ?

Miraj and Mahmud went to the same shop to buy some books and pens. Miraj bought 5 books and 2 pens and paid Rs. 74. Mahmud bought 1 pen and 3 books and paid Rs. 42. Which pair of equations could represent this situation ?

Quantitative comparison

a) $5x + 2x = 74$, $y + 3y = 42$

b) $5x + 2y = 74$, $x + 3y = 42$

c) $5x + 2y = 74$, $3x + y = 42$

d) $5y + 2y = 74$, $3x + y = 42$

16. $(3x + 4y) \times (3x - 4y)$ को सरलीकृत (विस्तारित) रूप के हो ?

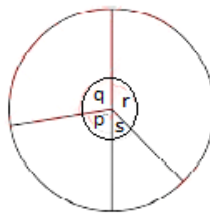
What is the simplified (expanded) form of $(3x + 4y) \times (3x - 4y)$? Quantitative comparison

17. $\sqrt[3]{64}$ को मान कति हुन्छ ?

What is the value of $\sqrt[3]{64}$? Numerical entries

18. तलका मध्ये कुन कोण 45° को नजिक छ ?

Which angle in the figure has a measure closest to 45° ?



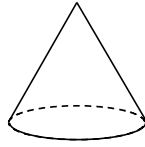
Logical reasoning

a) p
c) r

b) q
d) s

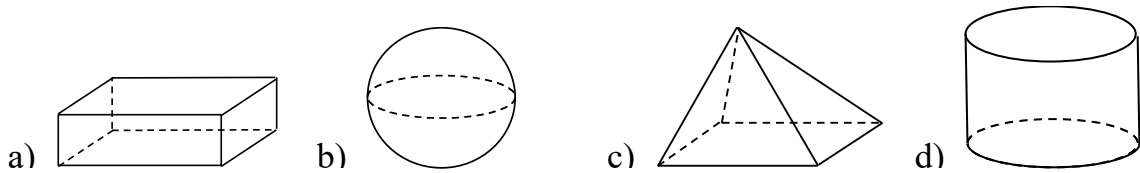
19. तलको चित्र सोली वा कोनको हो । यसको केहि भाग समतल र केहि भाग बक्र छ ।

Below is a cone. Part of its surface is flat and part of its surface is curved.



तलका मध्ये कुन चित्रमा पनि केहि भाग समतल र केहि भाग बक्र छ ?

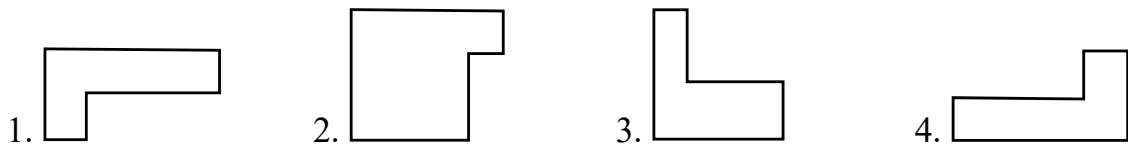
Which of these solids also has a flat surface and a curved surface ?



Logical reasoning

20. उस्तै आकार र साइज भएका बस्तुलाई “अनुरूप” भनिन्छ । तलका कुन दुई चित्र अनुरूप छन् ?

Figures that are the same size and shape are called “congruent” figures. Which two figures below are congruent ?



a) 1 and 2

b) 1 and 3

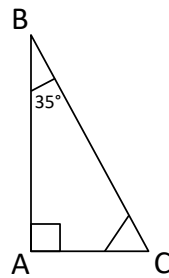
Logical reasoning

b) 1 and 4

c) 3 and 4

21. तलको त्रिभुज कोण C को मान कति हुन्छ ?

What is the measure of angle C in the triangle below ?



Logical reasoning

a) 45°

b) 55°

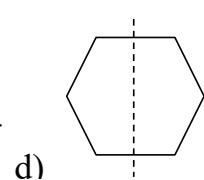
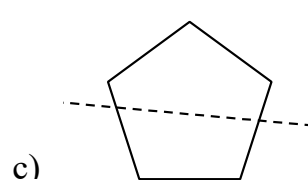
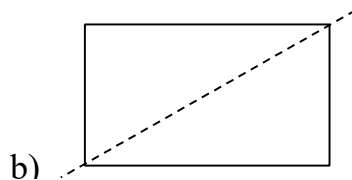
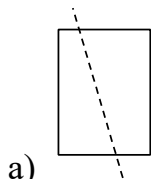
c) 65°

d) 145°

22. तलका चित्रहरू मध्ये कुन थोप्ला रेखा सममितिको रेखा हो ?

In which of the figures below is the dotted line a line of symmetry ?

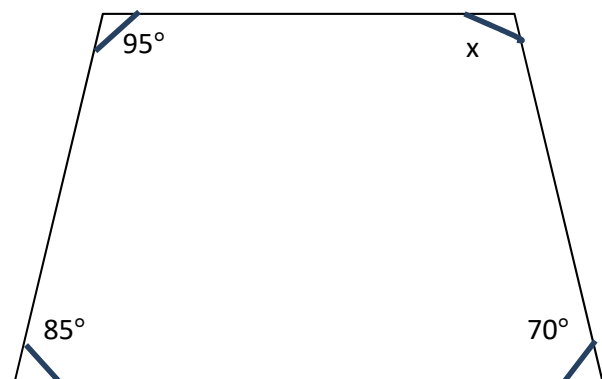
Logical



23. दिइएको चित्रमा x को मान कति हुन्छ ?

What is the value of x in the given figure?

Logical reasoning



24. दिइएको चित्रमा यदि दुई रेखाहरू समानान्तर भए, x को मान कति हुन्छ ?

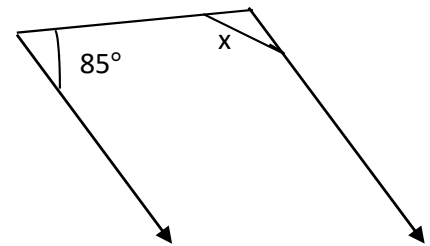
In the given figure, if the two rays are parallel, then what will be the value of x ?

a) 85°

b) 95°

c) 90°

d) 60°



Logical reasoning

25. कुनै तथ्याङ्कको $\sum X = 50$ र $(\bar{X}) = 10$ औसत भए पद सङ्ख्या कति हुन्छ ?

In the given data, $\sum X = 50$ and average $(\bar{X}) = 10$, then what will be the number of items ?

a) 5

b) 6

c) 7

d) 10

Quantitative

खण्ड 'ख' (Group 'B')

[प्रत्येक प्रश्न दुई अङ्कका छन् । Each question is worth two points.]

1. एउटा कक्षामा 40 विद्यार्थी छन्, जसमध्ये 4 जना अनुपस्थित छन् । अनुपस्थित भएका विद्यार्थीहरूको प्रतिशत पत्ता लगाउनुहोस् ।

There are 40 students in a class, and 4 of them are absent. Find the percentage of students who are absent.

Problem solving

2. वार्षिक ब्याज 10% दरमा, रु. 2000 को 5 वर्षमा कुल साधारण ब्याज कति हुन्छ ?

At a 10% annual interest rate, what is the total simple interest earned on Rs. 2000 over 5 years ?

Problem solving

3. एउटा पसलेले 15 वटा आँप रु 90 मा किन्यो । तीमध्ये तीनवटा आँप सडेका रहेछन्, र उसले बाँकी आँपलाई रु. 8 को दरमा बेच्यो । उसको नाफा वा नोक्सान रकम पत्ता लगाउनुहोस् ।

A shopkeeper bought 15 mangoes at Rs. 90. Three of them were rotten, and he sold the remaining mangoes at Rs. 8 each. Find his profit or loss amount.

Problem solving

4. यदि $p = 5$, $q = 2$, $m = 2$ र $n = 3$ भए $\frac{p^{m+n} \times q^{m-n}}{p^{m-n} \times q^{m+n}}$ को मान निकाल्नुहोस् ।

If $p = 5$, $q = 2$, $m = 2$ and $n = 3$ then find the value of $\frac{p^{m+n} \times q^{m-n}}{p^{m-n} \times q^{m+n}}$.

Quantitative reasoning

5. एउटा 10 मी. लम्बाइ, 9 मी. चौडाइ र 8 मी. उचाइ भएको ट्याङ्कीमा कति लिटर डिजेल अटाउला ?

How many litres of diesel does a tank with length 10m, breadth 9m and height 8m hold ?

Problem solving

6. वार्षिक खेलकुद कार्यक्रममा एउटा बाँसको $\frac{2}{3}$ लम्बाइमा हरियो रङ, र $\frac{1}{3}$ लम्बाइमा निलो रङ लगाइएको थियो । यदि बाँसको पूरा लम्बाइ 6 मिटर थियो भने

In the annual sports event $\frac{2}{3}$ of a length of bamboo was coloured green, and $\frac{1}{3}$ of the length of the bamboo was coloured blue. If the total length of the bamboo is 6 meters

i. बाँसको कति मिटरमा हरियो रङ लगाइएको थियो ?

i. How many meters were green in the bamboo?

Problem solving

ii. बाँसको कति मिटरमा निलो रङ लगाइएको थियो ?

ii. How many meters were blue in the bamboo?

Problem solving

7. सरल गर Simplify: $\frac{x^2-5x+6}{x^2-9} + \frac{x-3}{x+3}$.

Quantitative reasoning

8. गत वर्ष तपाईंको कक्षाले 400 कन्सर्ट टिकट रु. 6 को दरले बेचेको थियो। यस वर्ष तपाईंको कक्षाले मूल्य बढाएर रु. 6.5 को दरले टिकट बेचन खोज्दैछ। यदि तपाईंहरूले टिकट बेचनुभयो भने तपाईंको कक्षाले गत वर्षको तुलनामा यस वर्ष कति रकम बढी जम्मा गर्नुहुन्छ ? सो रकम पत्ता लगाउनुहोस्। गत वर्षको तुलनामा यस वर्ष कति प्रतिशत रकम बढ्छ भन्ने पनि हिसाब गर्नुहोस्।

Last year your class sold 400 concert tickets at Rs. 6 each. This year your class plans to raise the price to Rs. 6.5 for each ticket. If you sell 400 tickets how much **more** money will your class collect this year, compared to last year? Calculate this amount. Also calculate what percent of money will be increased this year as compared to last year.

Quantitative comparison