STRAND TEST (Number and Operation)

Section A

ANSWER ALL QUESTIONS

Directions: This section has 15 questions. Each question has four possible choices. Choose the most appropriate answer.

I. If we write 10^{-4} in standard form, how many zeros will it have after decimal and before 1?

a) Two zeros

b) Three zeros

c) Four zeros

d) Five zeros

II. The mass of an ant is approximately 0.000004 kg. Which of the following scientific notation shows the mass of an ant?

a) $0.4 \text{ X } 10^{6}$

b) $0.4 \text{ X } 10^{-6}$

c) $4.0 \text{ X } 10^{6}$

d) $4.0 \text{ X } 10^{-6}$

III. The distance from Earth to Mercury is about 5.79×10^{7}km and the distance from Earth to Jupiter is about 8.16×10^{8}km. Which of the following is the difference between the two distances?

a) 7.581×10^{7}

b) 7.581×10^{8}

c) 2.37×10^{1}

d) 2.37×10^{7}

IV. Pema bought 225 chocolates to celebrate his birthday in the class. He gave equal number of sweets to each student in the class. If each person got same number of chocolate as the number of students in the class. How many students are there in the class?

a) 15

b) 20

c) 25

d) 35

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V. The ratio of boys to girls in the class is 2:3. If there are 30 students in a class, how many boys are there in the class?

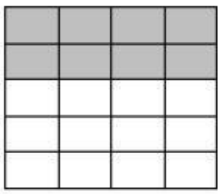
a) 10 boys

b) 12 boys

c) 18 boys

d) 20 boys

VI. What percent of the grid given below is shaded?



a) 8%

b) 40%

c) 60%

d) 80%

VII. A car travels 180km in 3hours. How far will it travel in 2 hours?

a) 60km

b) 80km

c) 120km

d) 240km

VIII. The tag on the shirt marks 20% off. If the regular selling price of a shirt is Nu 750, how much will Sonam pay?

a) Nu 150

b) Nu 600

c) Nu 770

d) Nu 900

IX. Surash is helping others to sell their land and takes a commission of 5%. Last month he managed to sell ten decimal land worth Nu 600,000. How much commission did he get that month?

a) Nu. 3,000,000

b) Nu. 300,000

c) Nu. 30,000

d) Nu. 630,000

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X. Penchu deposited Nu 15000 at the rate of 15% per year. What amount of money will he get after 18months?

a) Nu 3375

b) Nu 18375

c) Nu 19,050

d) Nu 40,500

XI. What is the difference of $(-10) - (-15)$?

a) (-5)

b) $(+5)$

c) (-25)

d) $(+25)$

XII. In a rapid-fire round quiz, each correct question gets (+20) points and each wrong question gets (-10)points. If you get 8 questions correct and 10 questions wrong, how many points will you get?

a) $(+60)$

b) (-60)

c) (-20)

d) $(+20)$

XIII. What is the quotient of $2\frac{4}{5} \div 2\frac{1}{3}$?

a) $\frac{4}{15}$

b) $\frac{12}{35}$

c) $\frac{6}{5}$

d) $\frac{12}{5}$

XIV. Sonam receives a salary of Nu 45000 per month. If he saves $\frac{1}{4}$ of his salary and spends the rest. How much ngultrum does he spent every month?

a) Nu 11,250

b) Nu 11,200

c) Nu 33750

d) Nu 33,800

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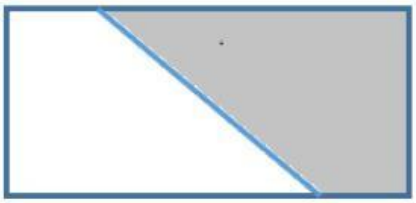
XV. What fraction is shaded in the diagram below?

a) $\frac{1}{4}$

b) $\frac{1}{2}$

c) $\frac{2}{3}$

d) $\frac{3}{4}$



Section B (50 Marks)

ANSWER ALL QUESTIONS

Question 1:

a) Write the following in standard form: $5 \times 10^3 + 6 \times 10^0 + 3 \times \frac{1}{10^2} + 4 \times \frac{1}{10^4}$

Answer:

b) Write 6005.0704 in exponential form.

Answer: $6 \times 10^3 + 5 \times 10^1 + 7 \times 10^{-2} + 4 \times 10^{-4}$

OR $6 \times 10^3 + 5 \times 10^0 + 7 \times 10^{-2} + 4 \times 10^{-4}$

Question 2:

a) What is the value of 5^{-2}? (write the answer in decimal)

Answer:

b) The mass of an Earth is about 5.972×10^{24} kg and the mass of Venus is about 4.867×10^{24} kg.

i. Which planet is heavier?

Answer:

ii. By how much? Write the answer in gram.

Answer:

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Question 3:

a) The prime factorization of a number is $2 \times 3 \times 5 \times 7 \times 7$.

i. Is the number a perfect square? Why or why not?

Answer:

ii. What would be the least number that you would divide this number to get a perfect square?

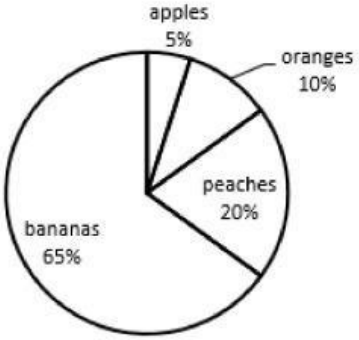
Answer:

Question 4:

a) Estimate the $\sqrt{8192}$

Answer:

b) The chart below shows the favourite fruits of 250 students.

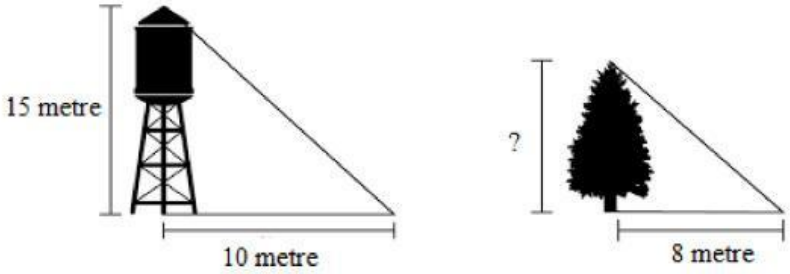


How many students choose peaches?

Answer:

Question 5:

a) The object and the shadow in the diagram below are proportionate.



Find the height of the tree.

Answer:

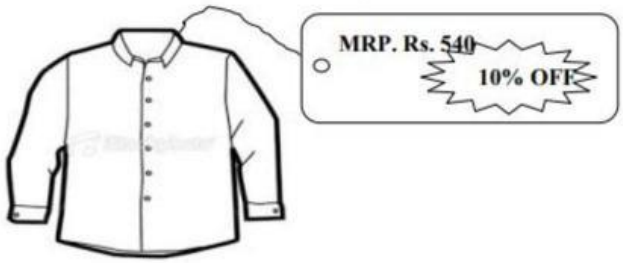
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b) Complete the table given below;

Fraction	Percent	Decimal	Ratio
$\frac{3}{4}$		0.75	

Question 6:

a) Lhamo went to a sale and saw a shirt as shown below.



What is the sale price of the shirt?

Answer:

b) Two shops sell the same item for the same price.

Shop 1: offers a discount of 10% one week and 10% the next week.

Shop 2: offers a discount of 20% in the second week.

Which shop offers the greater discount in the second week?

Answer:

Question 7:

a) Wangpola borrowed Nu 25000 at the rate of 12% per year for 3 years.

i. How much interest will he pay after 3 years?

Answer: Nu

ii. How much amount will he pay?

Answer: Nu

Question 8:

Find the value of;

a) $(-2) + (-7) \times (-3) + (-4)$

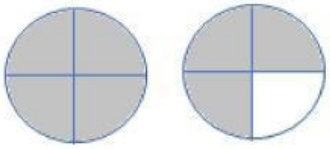
Answer:

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b) $[(-6) + (-10)] \div [(-4) \times 2]$

Answer:

c) What part of the fractions is shaded?



Answer:

Question 9:

a) A hydrogen atom has a diameter of approximately 0.000000000106 m. express the diameter of the hydrogen atom into scientific notation.

Answer:

b) Wangmo says that 12% of 420 = 42 + 4.2 +4.2 = 50.4. Is she correct?

Answer:

c) Multiply $\frac{1}{4} \times \frac{2}{3}$ and write the answer in the lowest term. (Write fraction as a/b)

Answer:

Question 10:

a) Order the following fractions from least to the greatest. (drag and drop in the space below)

$\frac{1}{2}$, $\frac{2}{3}$, $\frac{11}{12}$, $\frac{9}{24}$

Answer:

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b) Divide $\frac{6}{9} \div \frac{2}{3}$

Answer:

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