Himalaya International School

Subject – Mathematics

Class – VII

Practice Assignment – 1

Chapter – Simple Equations

Comparing Quantities

Q.1 If the sides of a triangle are in the ratio 3:4:5 and its perimeter is 480 m, then the length of its smallest side is ___.

  a) 120 m   b) 160 m   c) 200 m   d) 220 m

Q.2 By selling an article for Rs 50, a shopkeeper gains Rs 10. His gain percent is _____.

  a) 10%   b) 20%   c) 25%   d) 30%

Q.3 If 4m + 9 = 33, then m = _____.

  a) 6   b) 7   c) 8   d) 9

Q.4 A machine is purchased for Rs 6800 and sold for Rs 6120. The loss percent is _____.

  a) 5%   b) 10%   c) 20%   d) 22%

Q.5 A fruit seller purchased 20 kg of apples at Rs 50 per kg. Out of these, 5% of the apples were found to be rotten. If he sells the remaining apples at Rs 60 per Kg, then find profit or loss percent.

Q.6 A number is divided into two parts such that one part is 10 more than the other. If 5 times the smaller part is equal to 3 times the bigger part, find the number and the two parts.

Q.7 80 % of the total number of students of a school did not go for a picnic on a certain day. If the number of students who went for the picnic was 240, find the total number of students in the school.

Q.8 Solve the equation and check the answer: $\dfrac{2x+3}{x-4} = \dfrac{3}{4}$

Q.9 Which amount is greater? 40% of Rs 250 or 35% of Rs 300

Q.10 Form an equation for the given situation:

Gunjan's mother is 36 years old. She is 3 years older than thrice Gunjan's age.

Q.11 The cost of 7 notebooks is Rs 84.

a) Find the cost of 10 notebooks.

b) How many notebooks can be bought for Rs 288?

Q.12 Write a statement for the following equation: 3m + 5 = 15

Q.13 Solve: $\dfrac{-5}{2}(x - 4) - 3(x + 3) = 0$

Q.14 If Pawan pays an interest of Rs 600 for 5 years on a sum of Rs 3000, find the rate of interest.

Q.15 Frame two equations for m = 7.

Q.16 In how many years will a sum of Rs 1000 invested at the rate of 8% p.a. simple interest amount to RS 1200?

Q.17 Satish left one-fifth of his property for his son, one-fifth for his daughter and the remaining for his wife. If wife's share in the property was worth Rs 2,88,000, find the total worth of Satish's property.

Q.18 What sum will yield an interest of Rs 750 for 2 years at the rate of $8\dfrac{1}{3}$ % p.a.?

Q.19 Mrs Asha donated Rs 75000 to a Children Welfare Trust with the condition that the interest on this sum is to be used for awarding the five scholarships of equal value every year to the physically handicapped children. If the donation earns an interest of 10% per annum, find the value of each scholarship.

Q.20 A worker was put on some job for 50 days on the condition that he would get Rs 50 for each day, he worked out and would be fined Rs 5 for each day, he remained absent. He got Rs 740 in all. Based on the above information, answer the following questions:

a) For how many days, was he absent?

b) How many days he was present?

c) Find the total amount he received.

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Practice Assignment – 2

Chapter – Rational Numbers

Algebraic Expressions

Q.1 $x^2y^3 - 6$ is a _____.

  a) Monomial   b) Binomial   c) Trinomial   d) Quadrinomial

Q.2 $\frac{21}{32}$ in decimals can be expressed as _____.

  a) 0.236   b) 0.456   c) 0.656   d) 0.756

Q.3 The coefficient of 'a' in the expression $4m^2a^2 + 3ma + m$ is _____.

  a) $4m^2$ b) 3m   c) m   d) 3

Q.4 The collective weight of two packets having weight $\frac{3}{5}$ grams and $\frac{6}{25}$ grams will be _____.

  a) 0.60 g   b) 0.24 g   c) 0.36 g   d) 0.84 g

Q.5 Add the expressions: -7ab + 5, 12ab + 2, 9ab – 8 and -2ab – 3

Q.6 Find the sum of $\frac{2}{9} + \frac{5}{12} + (\frac{-13}{8})$.

Q.7 Find the value of $x^2 + y^2 + z^2 - xy - yz - zx$, when x = -3, y = 4 and z = -2.

Q.8 Simplify: $(\frac{36}{11} \; X \; \frac{88}{18}) + (\frac{-26}{14} \; X \; \frac{-28}{13})$

Q.9 The sum of two expressions is $4x^3 - 6x^2 + 5x - 3$. If one of them is $3x^2 + 4x$, find the other.

Q.10 Find five rational numbers between $\frac{-3}{8}$ and $\frac{-2}{3}$.

Q.11 If value of the expression $8x^4 + 4x^3 - 16x^2 + 10x + m$ is zero for x = $\frac{1}{2}$, then find the value of m.

Q.12 Arrange the following rational numbers in ascending order:

$$\frac{2}{3}, \frac{-7}{8}, \frac{5}{12}, \frac{5}{6}$$

Q.13 Find the perimeter of a triangle with sides 3z – 2x – y, 4x + y – 2z and x + y + z.

Q.14 Subtract $3x^2 - 8x + 7$ from the sum of $8x^2 - 7x + 5$ and $2x^2 + 6x - 9$.

Q.15 Simplify: $\frac{-8}{13} - \frac{25}{39} - \frac{-15}{26}$

Q.16 If $42\frac{1}{4}$ L of milk is poured equally into 13 small containers of the same capacity, then find the quantity of milk in each container.

Q.17 Simplify: 2b (a + 2) – a (3 – b) + 2 (a + b – 1)

Q.18 What should be subtracted from $\frac{-2}{3}$ to get $\frac{5}{6}$?

Q.19 Sunil's mother gave him Rs $9mn^2$ and his father gave him Rs $7(mn^2 + 3)$. Out of this total money, he spent Rs $(4mn^2 - 5)$ on his farewell party.

Based on the above information, answer the following questions:

a) How much money Sunil spent?

b) How much money is left with him?

Q.20 Shubham is a manager in a food chain restaurant. He spends $\frac{1}{5}$ of his salary to meet his kitchen expenses and $\frac{1}{15}$ of his salary in miscellaneous items. He donated $\frac{2}{3}$ of his salary to an organization helping elderly people. Finally, he is left with Rs 9000 with him.

Based on the above information, answer the following questions:

a) What is Shubham's salary?

b) How much amount he donates on elderly people?

c) How much money he spends for kitchen expenses?

d) How much money he spends on miscellaneous items?

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Class – VII

Practice Assignment – 3

Chapter – Congruence of Triangles

Perimeter and Area

Symmetry

Q.1 Which of the following has a line of symmetry?

Q.2 For two triangles, if two angles and the included side of one triangle are equal to two angles and the included side of another triangle. Then the congruency rule is:

a) ASA   b) SSS   c) SAS   d) RHS

Q.3 If E and F are the midpoints of equal sides AB and AC of a triangle ABC. Then:

a) BF = AC   b) BF = AF   c) CE = AB   d) BF = CE
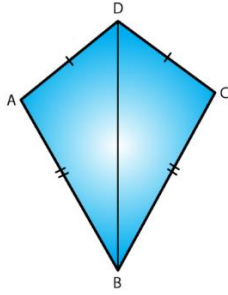
Q.4 A wire is bent to form a square of side 22 cm. If the wire is rebent to form a circle, its radius is ____.

a) 22 cm   b) 14 cm   c) 11 cm   d) 7 cm

Q.5 Circumference of a circle is always _____.

a) more than three times of its diameter

b) three times of its diameter

c) less than three times of its diameter

d) three times of its radius

Q.6 In figure, AD = DC and AB = BC.

a) Is ΔABD ≅ ΔCBD?

b) State the three parts of matching pairs you have used to answer (a).

Q.7 Two sides of a parallelogram are 12 cm and 8 cm. If the altitude corresponding to the side of length 12 cm is 6 cm long, find the length of the altitude corresponding to the side 8 cm.

Q.8 In Figure, ΔABC is isosceles with AB = AC, D is the mid-point of base BC.

a) Is ΔADB ≅ ΔADC?
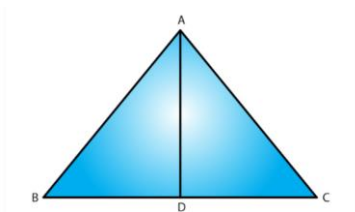
b) State the three pairs of matching parts you use to arrive at your answer.

Q.9 ΔABC is isosceles with AB = AC. Line segment AD bisects ∠A and meets the base BC in D.

a) Is ΔADB ≅ ΔADC?

b) State the three pairs of matching parts used to answer (a).

c) Is it true to say that BD = DC?

Q.10 State the number of lines of symmetry for the following figures:

a) An equilateral triangle   **b) An isosceles triangle**

**c) A scalene triangle**   **d) A rectangle**

Q.11 A hall in the form of a rectangular region has the dimensions 16 m X 14 m. How many marble slabs of dimensions 8 cm X 7 cm are needed to cover the floor of the hall?

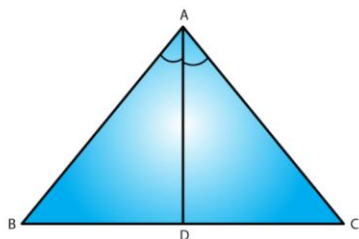**Q.12** Find the height of a triangle whose base is 60 cm and area is 0.06 sq.m.

Q.13 What other name can you give to the line of symmetry of

a) An isosceles triangle?   b) A circle?

Q.14 Give the order of rotational symmetry for each of the following figures when rotated about the marked point (x):

(i)   (ii)   (iii)
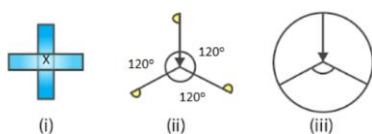
Q.15 In figure, AD bisects A and AD ⊥ BC.

a) Is ΔADB ≅ ΔADC?

b) State the three pairs of matching parts you have used in (a)

c) Is it true to say that BD = DC?

Q.16 If the circumference of a circular sheet is 154 m, find the area of the sheet.

Q.17 A rectangular park is 50 m long and 35 m wide. A path 2 m wide is constructed outside the park. Find the area of the path and the cost of constructing it at the rate of Rs 350 per 10 sq m.

Q.18 The total cost of flooring a room at Rs 12 per sq m is Rs 1440. If the length of the room is 12 m, find its breadth.
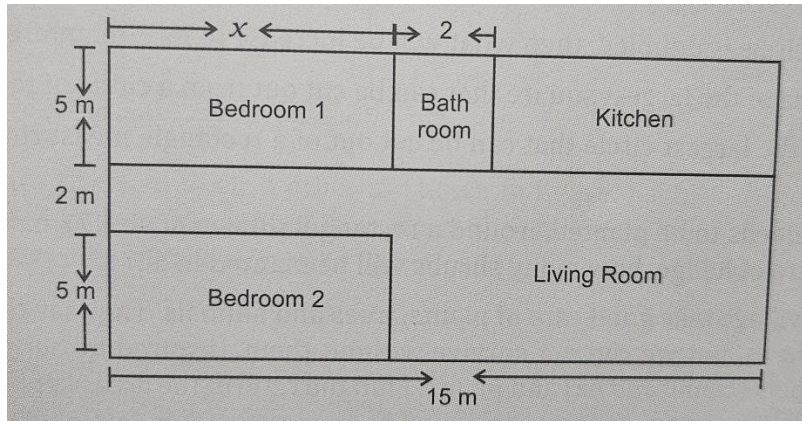
Q.19 Δ ABC is isosceles with AB = AC. AD is the altitude from A on BC.

a) Is ΔABD ≅ ΔACD?

b) State the pairs of matching parts you have used to answer (a).

c) Is it true to say that BD = DC?

Q.20 Study the layout given below in figure and answer the questions:

a) Write an expression for the total area covered by both the bed rooms and the kitchen.

b) Write an expression to calculate the perimeter of the living room.

c) If the cost of carpeting is Rs 50 per m², write an expression for calculating the total cost of carpeting both the bedrooms and the living room.

d) If the cost of tiling is Rs 30 per m², write an expression for calculating the total cost of floor tiles used for the bathroom and kitchen floors.

e) If the floor area of each bedroom is 35 m², then find x.

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Practice Assignment – 4

Chapter – Data Handling

Exponents and Powers

Q.1 Which of the following is equal to 1?

 a) $2^0 + 3^0 + 4^0$ b) $2^0 \times 3^0 \times 4^0$ c) $(3^0 + 2^0) \times 4^0$ d) $4^0 - 3^0$

Q.2 The number of trees in different parks of a city are 33, 38, 48, 33, 34, 34, 33 and 24. The mode of this data is _____.

 a) 24 b) 34 c) 33 d) 48

Q.3 45560000 in standard form is _____.

 a) 4556×10^2 b) 4556×10^3 c) 4.556×10^7 d) 4.556×10^4

Q.4 Which measures of central tendency get affected if the extreme observations on both the ends of a data arranged in descending order are removed?

 a) Mean and mode b) Mean and Median

 c) Mode and Median d) Mean, Median and Mode

Q.5 5.67×10^3 in usual form is _____.

 a) 567 b) 5670 c) 5670000 d) 567000

Q.6 The range of the data 21, 6, 17, 18, 12, 8, 4, 13 is ___.

 a) 17 b) 12 c) 8 d) 15

Q.7 What is the value of $[(-3)^{-2}]^3$?

Q.8 The enrolment in a school during their six consecutive years is as follows:

1555, 1670, 1750, 2013, 2540 and 2820

Find the mean enrolment of their school for this period.

Q.9 Simplify $2^3 \times 2^4 \times 5^7$ and write the answer in exponential form.

Q.10 The heights of ten girls were measured in cm, and then the results are given as follows:

135, 150, 139, 146, 128, 151, 132,149, 143 and 141.

a) What is the height of the tallest girl?

b) What is the height of the shortest girl?

c) What is the range of the data?

d) What is the mean height of the girls?

e) How many girls have heights that are more than the mean height?

Q.11 Simplify: $(8^2 \times 8^4) \div 8^6$

Q.12 The scores in a mathematics test (out of 25) of the 15 students in a class are as follows:

19, 25, 10, 5, 16, 25, 23, 20, 9, 20, 15, 20, 24, 12 and 20

Find the Mode and the Median of this data. Are they the same?

Q.13 In a survey carried out in a public school, equal number of boys and girls were asked to pick their favourite snacks from a list. The student's responses to the survey are listed in the following table.

Item	Chips	Chocolates	Popcorn	Ice Cream	Sandwich	Pastry
Number of Girls	220	240	175	150	160	55
Number of Boys	290	220	175	130	150	35

 Draw a double bar graph for the above information.

Q.14 Write the exponential form for 27 X 27 X 27 X 27 taking base as 3.

Q.15 A dice is thrown at random. Find the probability of getting:

    a) an odd number   b) a number less than or equal to 5

    c) a prime number   d) an even number

Q.16 Find the value of x if $8 \times 2^{x+2} = 32$.

Q.17 Simplify: $\dfrac{125 \; X \; 5^2 \; X \; 2^7 \; X \; x^5}{10^3 \; X \; x^3}$

Q.18 Find the value of $\dfrac{2^3 \; X \; 3^4 \; X \; 4}{3 \; X \; 32}$.

Q.19 Observe the given data:

Days of the Week	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Number of Mobile Phone Sets Sold	50	45	30	55	27	60

a) Draw a bar graph to represent the above given information.

b) On which day of the week was the sales maximum?

c) Find the total sales during the week.

Q.20 In a school an experiment was done by shuffling the teachers of different sections of class VII after 1ˢᵗ term exams. There was some improvement observed in the overall performance of a particular section. This observation has been expressed in the following bar graph in the form of average marks obtained by students, as shown below. Read the graph carefully and answer the following questions:
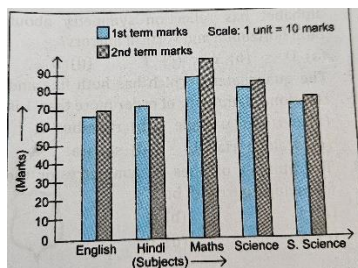
a) Name a subject in which students showed maximum increase in marks.

b) Name a subject in which students showed negative growth.

c) Name the overall best performing subjects in both the terms.

d) Find the average marks scored by the students in English in both the terms.