Revision Exercise - I

(1) (a) Simplify the following.

(i) $15 + 13 + 12$ (ii) $18 - 12 + 6$ (iii) $9 + 6 - 8$

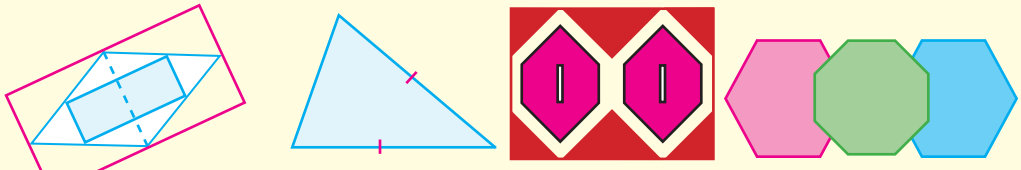
(iv) $8 \times 7 - 12$ (v) $7 \times 3 + 5$ (vi) $24 - 18 \div 3$

(vii) $15 + 18 \div 3$ (viii) $16 + 5 \times 3$ (ix) $15 - 9 \div 3$

(b) Hasintha says "when we simplify $91 - 35 \div 7$, we get 8 as the answer". Explain why Hasintha's answer is incorrect.

(2) (i) What is a bilaterally symmetric plane figure?

(ii) Write the number of axes of symmetry in each of the symmetric figures given below.



(a) (b) (c) (d)

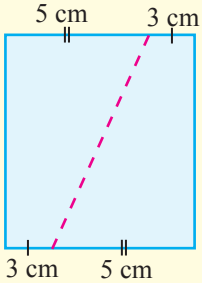
(iii) Draw the following symmetric figures in your square ruled exercise book. Draw their axes of symmetry and name them.

(a) A rectilinear plane figure with only one axis of symmetry

(b) A rectilinear plane figure with only two axes of symmetry

(c) A rectilinear plane figure with more than two axes of symmetry

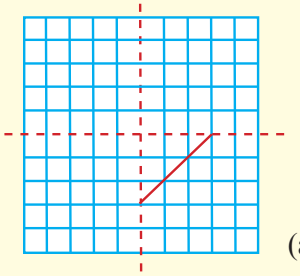
(iv)



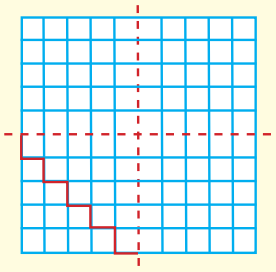
If the plane figure is cut along the dotted line, then it will be divided into two parts which coincide with each other.

Is the figure bilaterally symmetric about this line? Explain your answer giving reasons.

(v) Copy each of the following figures onto a square ruled paper and complete each figure such that the two dotted lines become axes of symmetry of the completed figure.



(a)

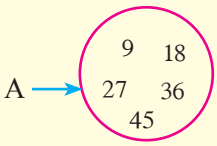


(b)

(3) (i) Set A is given below by listing its elements.
$A = \{2, 3, 5, 7\}$
Write A using a common property of its elements.
(ii) Re-write P = {factors of 12} by listing its elements.
(iii) Let A = {multiples of 3 that lie between 8 and 20}
(a) Write A by listing its elements.
(b) Represent A in a Venn diagram.

(iv) Write the set represented by the Venn diagram,

(a) using a common property of its elements,
(b) by listing its elements.



(4) (i) Write the factors of 44.
(ii) Write the prime factors of 44.
(iii) Write 56 as a product of its prime factors.
(iv) Find the highest common factor of 18, 30, 42.
(v) Find the least common multiple of 18, 30, 42.

(5) (i) What is the digital root of 522?
(ii) Using the digital root, explain why 522 is divisible by 3.
(iii) Using the digital root explain why 522 is divisible by 9.
(iv) How do we find out without dividing a number whether it is divisible by 4 or not?
(v) 4 3 2 1 are four numbers written on four cards. How many numbers which are divisible by 4 can be made using all these cards? Write down all such numbers.
(vi) If the number 53 ☐ which has 3 digits is divisible by 9, then what is the digit in the units place?
(vii) If the number 53 ☐ which has 3 digits is divisible by 6, then what is the digit in the units place?

(6) (a) (i) Find the value of 6^2.
(ii) Write all the factors of the number corresponding to the value found in (i).
(iii) There are only two prime factors among the factors written in (ii). Write down three more numbers where each of them has only two prime factors.
(iv) Write each of the three numbers as a power of a prime number.

(b) (i) Expand $a^2\ b^3$.
(ii) Evaluate $x^3\ y^2$ when $x = 5$ and $y = 4$.

(7) Write whether the following statements are true or false.

(i) Any multiple of 2 has only one prime factor.

(ii) Any number which can be written as a power of 2, has 2 as its only prime factor.

(iii) Any multiple of 3 has only one prime factor.

(iv) Any number which can be written as a power of 3, has only one prime factor.

(v) Any number which can be written as a power of 5, has 5 as its only prime factor.

(vi) The highest common factor of any two positive integers is less than or equal to their least common multiple.

(vii) The highest common factor of any two distinct prime numbers is 1.

(viii) The highest common factor of 12 and 13 is 1.

(8) (i) Explain, giving reasons whether AD 1892 is a leap year or not.

(ii) Explain, giving reasons whether AD 2100 is a leap year or not.

(9) (a) Add the following.

(i)

years	months	days
3	6	19
+ 2	8	20

(ii)

years	months	days
16	9	21
+ 7	3	9

(b) Subtract the following.

(i)

years	months	days
6	8	12
− 4	5	20

(ii)

years	months	days
5	7	19
− 2	9	25

(10) The fifth birthday of a child fell on 2002 - 08- 26. His mass was 20 kg and 700 g on that day.

(i) When was his birthday?

(ii) On his eighth birthday his mass was 30kg and 600g. What is the increase in his mass during the three years?

(iii) What was his age on 2012 - 03 - 25?

(iv) On 2012 - 03 - 25, the mass of the child was 12kg and 800g more than his mass on his fifth birthday. Find the mass of the child on 2012 - 03 - 25.

(11) (a) Using the number line, determine each of the following sums.

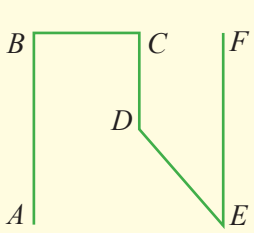
(i) $(-6) + (-4)$ (ii) $(-5) + (+5)$ (iii) $(+8) + (-9)$

(b) Simplify

(i) $(+4) + (-10)$ (ii) $(-9) + (+5)$ (iii) $(-8) + (-5)$

(iv) $(+\frac{1}{4}) + (+\frac{1}{4})$ (v) $(-\frac{2}{7}) + (-\frac{3}{7})$ (vi) $(-1.76) + (+0.36)$

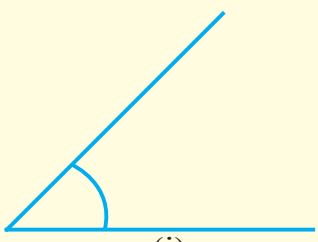
(12) (a)

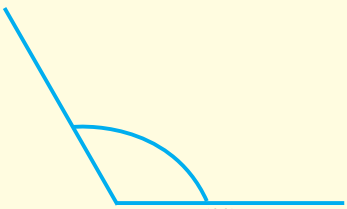


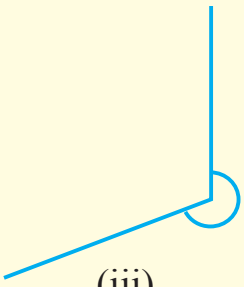
Complete the table given below by considering a person whose journey starts at A and ends at F.

	Two roads travelled	Name the angle between the two roads	Name the vertex and the arms of the angle between the two roads	Name the type of angle between the two roads when classified according to its magnitude
(i)	A to C through B	.....	.....	.....
(ii)	B to D through C	.....	.....	.....
(iii)	C to E through D	.....	.....	.....
(iv)	D to F through E	.....	.....	.....

(b) Measure the magnitude of each angle given below using a protractor and write it down.


(i)

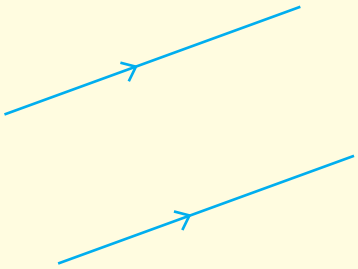

(ii)


(iii)

(c) Draw the following angles using the protractor and the ruler.

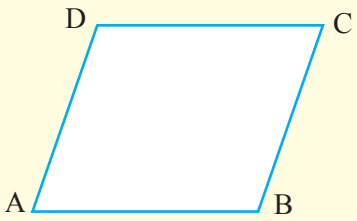
(i) $A\hat{B}C = 65^{\circ}$ (ii) $P\hat{Q}R = 130^{\circ}$ (iii) $M\hat{N}R = 145^{\circ}$

(13) (i) Two parallel lines are shown below. How far apart are they?



(ii) (a) Draw a straight line segment and name it *XY*.
(b) Mark a point *A* which is a distance of 4.8 cm from *XY*.
(c) Draw a straight line segment through the point *A* parallel to *XY*.

(iii) (a) Draw the parallelogram ABCD.



Draw parallel lines to diagonal AC throught B and D.

(14) (i) Nimal's birthday is 2002 -11 -25. Find Nimal's age in years, months and days on 2016 - 08 - 20.

(ii) Write the time that has elapsed between 12:35 of 2015 - 01 - 01 and 19:20 of 2015 - 02 - 05 in days, hours and minutes.