APPENDICES

AWARENESS TEST

M.M.. : 50

STUDENT'S INFORMATION

Name : .....

Gender : .....

Age : .....

School : .....

Parents Education :

Father → .....

Mother → .....

Parents Occupation :

Father → .....

Mother → .....

INSTRUCTIONS

- As such there is no time limit for solving the questions but still try to solve within one hour.
- Write the answers in the appropriate space provided in the Question cum Answer paper.
- Before writing the answer, read the question carefully.

Q. 1] What are the various types of properties used for addition of whole numbers ? (2.5)

Ans.]

Q. 2] What are the various types of properties used for Multiplication of whole numbers ? (2.5)

Ans.]

Q. 3] Which property is usually used when we have both addition & multiplication in combination ? (2)

Ans.]

Q. 4] Name the property used in each of the following cases : (7)

a) $2+113$ = a whole number

Ans.]

b) $a + b + c + d + e$ = a whole number, where a, b, c, d & e are all whole numbers.

Ans.]

c) $p + q = q + p$

Ans.]

d) $2+3+4+5 = 3+2+5+4$

Ans.]

e) $p + (q + r) = (p + q) + r$

Ans.]

f) $a + b + c + 0 = a + b + c$

Ans.]

g) $2+0+3 = 0+5 = 5$

Ans.]

Q. 5] Name the property used in each of the following cases : (8)

a) $1001 \times 1002 \times 1 = 1001 \times 1002$

Ans.]

b) $y \times 1 = y$

Ans.]

c) $17 \times (2 \times 5) = (17 \times 2) \times 5$

Ans.]

d) $(a \times b) \times c = a \times (b \times c)$

Ans.]

e) $1001 \times 99 = 99 \times 1001$

Ans.]

f) $s \times r = r \times s$

Ans.]

g) $0 \times 5005 =$ a whole number

Ans.]

h) $50 \times 20 \times 10 \times 5 \times 0 \times 1000 = 0$

Ans.]

Q. 6] Identify the step where property is used & name the property, in the following solutions (Write the name of the property in front of the step only):

a) (1)

12×45
$= 12 \times (40 + 5)$
$= 12 \times 40 + 12 \times 5$
$= 480 + 60$
$= 540$

b) $1378 \times 55 + 1378 \times 45$ (1)

$= 1378 \times (55 + 45)$

$= 1378 \times 100$

$= 137800$

c) $207 \times 37 + 207 \times 50 + 207 \times 13 + 0$ (5)

$= 207 \times [\ (37 + 50 + 13)\ ] + 0$

$= 207 \times [\ (37 + 50) + 13] + 0$

$= 207 \times [\ 37 + (50 + 13)\ ] + 0$

$= 207 \times [\ 37 + (13 + 50)\ ] + 0$

$= 207 \times [\ (37 + 13) + 50] + 0$

$= 207 \times [\ 50 + 50] + 0$

$= 207 \times 100 + 0$

$= 20700 + 0$

$= 20700$

d) $13 \times 24 + 13 \times 38 + 13 \times 26 + 13 \times 12 \times 1$ (3)

$= 13\ [\ 24 + 38 + 26 + 12\ ] \times 1$

$= 13\ [\ 24 + 26 + 38 + 12\ ]$

$= 13\ [\ 50 + 50\ ]$

$= 13 \times 100$

$= 1300$

Q. 7] State which property is satisfied in the following cases :

a) $(546 + 647) + 3589$ (2)
$= 1193 + 3589$
$= 4782$

Also,

$546 + (647 + 3589)$
$= 546 + 4236$
$= 4782$

So, $(546 + 647) + 3589 = 546 + (647 + 3589)$

Ans.]

b) $125768 + 867521$ (2)

$= 993289$

Also,

$867521 + 125768$

$= 993289$

So, $125768 + 867521 = 867521 + 125768$
Ans.]

Q. 8] Fill up the blanks : (4)

a) _____ is the identity for addition.

b) _____ is the identity for multiplication.

c) For 2 whole nos. a & b, if $a + b = c$ then, c is always a _____ number.

d) For two whole nos. a & b, if $a \times b = c$ then, c is always a _____ number.

Q. 9] Match the following Columns : (5)

Column – A	**Column – B**	**Answer**
a) p + q	i) 765 x 567	----------
b) r + (s + t)	ii) 5 x 12 +5 x 205	----------
c) 5 x (12 + 205)	iii) q + p	----------
d) 567 x 765	iv) 14 x (5 x 133)	----------
e) (14 x 5) x 133	v) (r +s) + t	----------

Q. 10] State True or False : (5)

a) 0 is the multiplicative identity.

b) 1 is the identity for addition.

c) For any whole nos. a, b, c, d we have, a x (b + c + d) = a x b + a x c + a x d always true.

d) If a and b are any two whole numbers Then, a x b is also a whole number.

e) If a and b are any two whole numbers. Then, a + b is also a whole number.

APPLICATION TEST

M.M.. : 60

STUDENT'S INFORMATION

Name : .....

Gender : .....

Age : .....

School : .....

Parents Education :

Father → .....

Mother → .....

Parents Occupation :

Father → .....

Mother → .....

INSTRUCTIONS

- As such there is no time limit for solving the questions but still try to solve within one hour.
- Write the answers in the appropriate space provided in the Question cum Answer paper.
- Before writing the answer, read the question carefully.
- ***This question paper is based on the properties of fundamental operations. So, solve the problems by making use of the various properties of fundamental operations.***

Q-1 Fill in the blanks: (10)

(a) $236 + 1005 = 1005 +$ _____

(b) $7486 +$ _____ $= 7486$

(c) $x + (y + z) = (x +$ ___ $) + z$

(d) $9 +$ (_____ $+ 999) = (9 + 99) + 999$

(e) $1111 +$ _____ $+ 9 = 1120$

(f) $1001 \times$ _____ $\times 1003 = 1003 \times$ ____ $\times 1001$

(g) _____ $\times 11 \times 11 = 121$

(h) $(p \times q) \times r = p \times ($ ____ $\times$ _____ $)$

(i) $2 \times 3 + 2 \times 19 = (3 + 19) \times$ _____

(j) _____ and _____ are the two numbers which when multiplied by itself give the product equal to the number itself.

Q.2 Choose the correct answer by making a tick (✓) mark. (5)

(a) If $a = 5$; $b = 0.5$, then $a+b$ is a

(i) Fraction (ii) whole no. (iii) Integer

(b) If $a = 0.5$; $b = 101$ then $a \times b$ is a

(i) fraction (ii) whole no. (iii) Integer

(c) $1 \times 1 + 1 \times 1$ is equal to

(i) $1 + (1 \times 1)$ (ii) $2 + 2$ (iii) $1 \times (1+1)$

(d) For 3 whole nos x, y & z, $x \times y + z = 0$ then,

(i) both x & y are 0 (ii) either x or y is 0

(iii) neither x nor y is 0.

(e) $72 \times 73 + 72 \times 27$ is equal to:

(i) 73×100 (ii) 72×100 (iii) 27×100

Q.3 Add the numbers given in each of the following cases : (8)

(a) 2, 3, 4, 5, 45, 46, 47, 48

(b) 862, 100, 138

(c) 1, 2, 3, 4, 96, 97, 98, 99

(d) 963, 1453, 537 & 1647

Q. 4 Multiply the numbers given in each of the following cases: (6)

(a) 4, 687 & 50

(b) 2, 1286, 25 & 2

(c) 8, 4679, 10 & 125

Q.5 Find the product of the numbers given in each case: (8)

(a) 16 & 25

(b) 196 & 5

(c) 284 & 25

(d) 84 & 35

Q. 6 Find the sum of the nos. given: (6)

(a) 1078 + 999

(b) 99 + 5583

(c) 5477 + 10 + 9.

Q. 7. Find the product for each of the following cases: (6)

(a) 638 & 102

(b) 999 & 73

(c) 12 & 45

Q.8 Simplify the following: (4)

(a) 5432 x 999 + 5432

(b) 3 x 4 x 8165 + 2 x 1835 x 6

Q.9 Is the product of an even whole number and an odd whole number always a whole no? Give reason. (3)

Q.10 Given that the product of two whole numbers is. (4)

(a) Zero

(b) One

What can you say about the two numbers in the two cases given.

SCORING KEY FOR AWARENESS TEST

	Answer		**<Item No. / Marks.>**
Ans.1	Closure	→	<Item 1/0.5 m.>
	Commutative	→	<Item 2/0.5 m.>
	Associative	→	<Item 3/0.5 m.>
	Distributive	→	<Item 4/0.5 m.>
	Identity 0	→	<Item 5/0.5 m.>
Ans.2	Closure	→	<Item 6/0.5 m.>
	Commutative	→	<Item 7/0.5 m.>
	Associative	→	<Item 8/0.5 m.>
	Distributive	→	<Item 9/0.5 m.>
	Identity 1	→	<Item 10/0.5 m.>
Ans.3	Distributive property	→	<Item 11/02 m.>
Ans.4	(a) Closure	→	<Item 12/01 m.>
	(b) Closure	→	<Item 13/01 m.>
	(c) Commutative	→	<Item 14/01 m.>
	(d) Commutative	→	<Item 15/01 m.>
	(e) Associative	→	<Item 16/01 m.>
	(f) 0 Identity for Addition	→	<Item 17/01 m.>
	(g) 0 Identity for Addition	→	<Item 18/01 m.>
Ans.5	(a) 1 Multiplicative Identity	→	<Item 19 / 1m.>
	(b) 1 Multiplicative Identity	→	<Item 20 / 1m.>
	(c) Associative	→	<Item 21 / 1m.>
	(d) Associative	→	<Item 22/ 1m.>
	(e) Commutative	→	<Item 23 / 1m.>
	(f) Commutative	→	<Item 24/ 1m.>
	(g) Closure	→	<Item 25 / 1m.>
	(h) Multiplicative Property for 0	→	<Item 26 / 1m.>

Ans.6 (a) 12 x 40 + 12 x 5 / Distributive Property → <Item 27 / 1m.>

(b) 1378 x (55 + 45) / Distributive Property → <Item 28 / 1m.>

(c) 207x[(37+50+13)] + 0 / Distributive Property → <Item 29 / 1m.>

* 207x[37+(50+13)]+0/Associative Property → <Item 30 / 1m.>

* 207x[37(37+13)+50]+0/Commutative Property → <Item 31 / 1m.>

* 207x{37(37+13)+50]+0/Associative Property → <Item 32 / 1m.>

* 20700/O Identity for addition → <Item 33 / 1m.>

(d) * 13[24+38+26+12]/Distributive & 1 identity for multiplication → <Item 34 / 2m.>

* 13[24+26+38+12]/Commutative → <Item 35 / 1m.>

Ans. 7 (a) Associative → <Item 36 / 2m.>

(b) Commutative → <Item 37 / 2m.>

Ans. 8 Fill in the blanks –

(a) 0 → <Item 38 / 1m.>

(b) 1 → <Item 39 / 1m.>

(c) Whole → <Item 40 / 1m.>

(d) Whole → <Item 41 / 1m.>

Ans. 9 Match the columns –

(a) q + p → <Item 42 / 1m.>

(b) (r + s) + t → <Item 43 / 1m.>

(c) 5x12+5x205 → <Item 44 / 1m.>

(d) 765 x 567 → <Item 45 / 1m.>

(e) 14 x (5 x 133) → <Item 46 / 1m.>

Ans.10 True or False –

(a) False → <Item 47 / 1m.>

(b) False → <Item 48 / 1m.>

(c) True → <Item 49 / 1m.>

(d) True → <Item 50 / 1m.>

(e) True → <Item 51 / 1m.>

SCORING KEY FOR APPLICATION TEST

	Answer		**<Item No. / Marks.>**
Ans.1	Fill in the blanks		
	(a) 236	→	<Item 1 / 1m.>
	(b) 0	→	<Item 2 / 1m.>
	(c) y	→	<Item 3 / 1m.>
	(d) 99	→	<Item 4 / 1m.>
	(e) 0	→	<Item 5 / 1m.>
	(f) 1, 1	→	<Item 6 / 1m.>
	(g) 1	→	<Item 7 / 1m.>
	(h) q x r	→	<Item 8 / 1m.>
	(i) 2	→	<Item 9 / 1m.>
	(j) 0 and 1	→	<Item 10 / 1m.>
Ans.2	Tick the correct answer –		
	(a) (i) Fraction	→	<Item 11 / 1m.>
	(b) (ii) Fraction	→	<Item 12 / 1m.>
	(c) (iii) 1 x (1+1)	→	<Item 13/ 1m.>
	(d) (ii) Either x or y is 0	→	<Item 14 / 1m.>
	(e) (ii) 72 x 100	→	<Item 15 / 1m.>
Ans. 3	Solution –		
	(a) 2, 3, 4, 5, 45, 46, 47, 48	→	<Item 16 / 2m.>
	2+3+4+5+45+46+47+48 =		
	= (2+48) + (3+47) + (4+46) + (5+45)	→	< 1 m.>
	= 50 + 50 + 50 + 50	→	< 0.5 m.>
	= 200	→	< 0.5 m.>
	(b) 862, 100, 138	→	<Item 17/2m.>
	862 + 100 + 138	→	<1 m.>
	= (862 + 138) + 100	→	< 0.5 m.>

= 1000 + 100 → < 0.5 m.>

= 1100

(c) 1, 3, 4, 96, 97, 98, 99 → <18/2m.>

1+2+3+4+96+97+98+99

(1+99)+(2+98)+(3+97)+(4+96) → <1 m.>

= 100 + 100 + 100 + 100 → <0.5 m.>

= 400 → <0.5 m.>

(d) 963, 1453, 537 and 1647 → <Item 19/2m.>

963 + 1453 + 537 + 1647

= (963 + 537) + (1453 + 1647) → <1 m.>

= 1500 + 3100 → <0.5 m.>

= 4600 → <0.5m.>

Ans.4 (a) 4,687 and 50 → <Item 20/2m.>

4 x 687 x 50

= (4 x 50) x 687 → <1 m.>

= 200 x 687 → <0.5m.>

= 137400 → <0.5 m.>

(b) 2, 1286, 25 and 2 → <Item 21/2 m.>

2 x 2 x 25 x 1286 → <1 m.>

= 4 x 25 x 1286

= 100 x 1286 → <0.5 m.>

= 128600 → < 0.5 m.>

(c) 8, 4679, 10 and 125 → <Item 22 / 2 m.>

8x4679 x 10 x 125

= 8 x 125 x 10 x 4679

= 1000 x 10 x 4679 → <1 m.>

= 10000 x 4679 → <0.5 m.>

= 46790000 → <0.5 m.>

Ans. 5 (a) 16 & 25 → <Item 23 / 2m.>

16 x 25

= 16/2 x 25 x 2 → <1 m.>

= 8 x 50 → <0.5 m.>

= 400 → <0.5 m.>

(b) 196 & 5 → <Item 24 /2 m.>

196 x 5

= 196/2 x 5 x 2 → <1 m.>

= 98 x 10 → <0.5 m.>

= 980 → <0.5 m.>

(c) 284 and 25 → <25 / 2 m.>

284 x 25

= 284 / 4 x 25 x 4 → <1 m.>

= 71 x 100 → <0.5 m.>

= 7100 → <0.5m.>

(d) 84 & 35 → <Item 26/2 m.>

84 x 35

= 84/2 x 35 x 2 → <1 m.>

= 42 x 70 → <0.5 m.>

= 2940 → <0.5 m.>

Ans. 6 (a) 1078 + 999 → <Item 27 / 2m.>

= 1078 + (1000-1) → <1 m.>

= 2078 – 1 → <0.5 m.>

= 2077 → <0.5m.>

(b) 99 + 5583 → <Item 28/2 m.>

= (100-1)+5583 → <1 m.>

= 5683-1 → <0.5 m.>

= 5682 → <0.5 m.>

(c) 5477 + 10 + 9 → <Item 29 / 2m.>

= 5477 + 10 + (10-1) → <0.5m.>

= 5487 + 10 – 1 → <0.5 m.>

= 5497-1 → <0.5 m.>

= 5496 → <0.5 m.>

Ans. 7 (a) 638 and 102 → <Item 30 /2m.>

638 x (100+2) → <1 m.>

= 63800 + 638 x 2 → <0.5m.>

= 63800 + 1276

= 65076 D- 270 → <0.5 m.>

(b) 999 and 73 → <Item 31/2m.>

999 x 73

= (1000-1) x 73 → <1 m.>

= 73000 – 73 → <0.5m.>

= 72927 → <0.5m.>

(c) 12 and 45 → <Item 32/2m.>

12 x 45

= (10+2) x 45 → <1 m.>

= 450 + 90 → <0.5 m.>

= 540 → <0.5 m.>

Ans.8 (a) 5432 x 999 + 5432 → <Item 33 / 2 m.>

= 5432 (999+1) → <1 m.>

= 5432 x 1000 → <0.5 m.>

= 5432000 → <0.5 m.>

(b) 3 x 4 x 8165 + 2 x 1835 x 6 → <Item 34/2m.>

= 12 x 8165 + 12 x 1835 → <0.5 m.>

= 12 (8165 + 1835) → <1 m.>

= 12 x 10000

= 120000 → <0.5m.>

Ans. 9 Yes, because closure property holds true for multiplication of whole numbers → <Item 35 / 3 m.>

Ans.10 (a) One of the two numbers is 0 → <Item 36 / 2 m.>

(b) Both the numbers are 1 only → <Item 37 / 2 m.>