**ANNEXURE** -

# DAV PUBLIC SCHOOLS, ODISHA ZONE

# HALF YEARLY EXAMINATION, SUBJECT – MATHEMATICS, CLASS: VI

## **BLUE PRINT OF QUESTION PAPER**

Sl. No	Chapters	MCQs (1 Mark)	Fill in the Blanks (1 Mark)	VSA (1Mark)	SA-I (2 Marks)	SA-II (3 Marks)	LA (4 Marks)	Total
1	Natural Numbers and Whole numbers	2	1	1	1	1	1	13
2	Factors and Multiples	2	1	2	1	1	1	14
3	Integers	2	1	1	1	1	1	13
4	Ratio proportion and unitary method	1	2	0	0	2	1	13
5	Basic Geometrical Concepts	1	0	0	0	1	1	8
6	Line Segments	0	0	0	1	1	0	5
7	Angles	2	0	1	1	1	0	8
8	Transversal and Pairs of lines	0	0	0	1	0	1	6
	TOTAL	1×10=10	$1 \times 5 = 5$	$1 \times 5 = 5$	2×6 =12	3×8=24	4×6=24	80(40)

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**ANNEXURE -B** 

### DAV PUBLIC SCHOOLS, ODISHA ZONE HALF YEARLY EXAMINATION, CLASS: VI, SUBJECT: MATHEMATICS

Sl. No.	Chapters / units	ESTION WISE ANALY Forms of Question (LA, SA-II, SA-I, VSA, Fill in the blanks, MCQ)	Marks Allotted	(R), (U), (A), (H), (E)
1	Natural Numbers and Whole numbers	MCQ	1	R
2	Natural Numbers and Whole numbers	MCQ	1	R
3	Factors and Multiples	MCQ	1	R
4	Factors and Multiples	MCQ	1	R
5	Integers	MCQ	1	U
6	Integers	MCQ	1	U
7	Ratio proportion and unitary method	MCQ	1	U
8	Basic Geometrical Concepts	MCQ	1	R
9	Angles	MCQ	1	R
10	Angles	MCQ	1	R
11	Natural Numbers and Whole numbers	Fill in the blanks	1	U
12	Factors and Multiples	Fill in the blanks	1	R
13	Integers	Fill in the blanks	1	R
14	Ratio proportion and unitary method	Fill in the blanks	1	U
15	Ratio proportion and unitary method	Fill in the blanks	1	U
16	Natural Numbers and Whole numbers	VSA	1	R
17	Factors and Multiples	VSA	1	R
18	Factors and Multiples	VSA	1	U
19	Integers	VSA	1	U
20	Angles	VSA	1	U

21	Natural Numbers and Whole numbers	SA – I	2	R
22	Factors and Multiples	SA - I	2	U
23	Integers	SA – I	2	А
24	Line Segments	SA – I	2	R
25	Angles	SA – I	2	Creation/HOTs
26	Transversal and Pairs of lines	SA – I	2	А
27	Natural Numbers and Whole numbers	SA - II	3	А
28	Factors and Multiples	SA - II	3	А
29	Integers	SA - II	3	U
30	Ratio proportion and unitary method	SA - II	3	А
31	Ratio proportion and unitary method	SA - II	3	А
32	Basic Geometrical Concepts	SA - II	3	R
33	Line Segments	SA - II	3	А
34	Angles	SA - II	3	HOTs
35	Natural Numbers and Whole numbers	LA	4	А
36	Factors and multiples	LA	4	А
37	Integers	LA	4	А
38	Ratio proportion and unitary method	LA	4	HOTs
39	Basic Geometrical Concepts	LA	4	R
40	Transversal and Pairs of lines	LA	4	R

#### DAV PUBLIC SCHOOLS, ODISHA ZONE

#### HALF YEARLY EXAMINATION, CLASS: VI, SUBJECT: MATHEMATICS

#### **MARKING SCHEME**

QN NO.	Value Points	Marks Allotted	PAGE NO. OF NCERT/TEXT BOOK
1	(c) 99987	1	7
2	(c) 259	1	3
3	(b) 12	1	26
4	(a) 1	1	24
5	(a) $-10 < -4$	1	50
6	(c) 0	1	51
7	(d) 3 : 5	1	88
8	(b) point of concurrence	1	140
9	(a) a straight angle	1	170
10	(b) 150 <sup>0</sup>	1	171
11	50	1	12
12	Twin Primes	1	24
13	35	1	58
14	10:1	1	87
15	12	1	83
16	10 million =1 crore	1	01
17	2	1	36
18	$144 = 2 \times 2 \times 2 \times 2 \times 3 \times 3$	1	33
19	(-1) + 1 = 0	1	54
20	$90^0 - 59^0 = 31^0$	1	166
21	Smallest Number = 10000039 Largest Number = 99999310	1 1	21
22	$348 ) 1024 (2) \\ 696 \\ 328 ) 348 (1) \\ 328 \\ 20 ) 328 (16) \\ 320 \\ 8 ) 20 (2) \\ 16 \\ 4 ) 8 (2) \\ 8 \\ 0 \\ 50, HCF of 348 and 1024 is 4. \\ OR \\ 0R \\ 0R \\ 0R \\ 0R \\ 0R \\ 0R \\ 0R$	1.5 0.5	34
	Sum of digits of the number $= 3 + 4 + 5 + 6 + 7 + 2 = 27$ As 27 is divisible by 9, the given number is divisible by 9.	1	29
23	$(-2)^2 = 4, (-10)^2 = 100$ $(-2)^2 \times (-10)^2 \times (-1) = 4 \times 100 \times (-1) = (-400)$ <b>OR</b>	1 + 1	59
	$325 \times (-641) + 325 \times (-359) \\ = 325 \times [(-641) + (-359)] = 325 \times (-1000) = (-325000)$	1 + 1	

24	(a) $AC - AE = EC$ (b) $ED + BE = BD$	1 1	155
	(a) 0 110°	1	
25	(b) $A \xrightarrow{C} B$	1	165,166
26	$\angle$ BGE and $\angle$ CHF are not corresponding angles. They are called alternate angles.	1	178
	Weight carried by tempo = $482 \times 15$ kg Weight carried by Van = $518 \times 15$ kg Total weight carried by both tempo and Van = $482 \times 15 + 518 \times 15$ = $15(482 + 518)$ = $15 \times 1000 = 15000$ kg	0.5 0.5 1	13
27	OR Largest 6-digit number = 9999999 999999 ÷ 45, Quotient = 22222, Remainder = 9 Required no. = 9999999 - 9 = 999990	1 1 1 1	15
28	Length, breadth and height of a room are 828cm, 675 cm, 450cm respectively. Longest tape required to measure the three dimensions of the room = HCF of 828cm, 675 cm, 450cm HCF of 828cm, 675 cm, 450cm = 75 cm Hence, the required longest tape = 75 cm <b>OR</b> Product of two numbers = HCF × LCM	1 2 1	36
	$\therefore \text{ Other number} = \frac{HCF \times LCM}{First number} = \frac{13 \times 1989}{117} = 221$	2	40
29	(-400) + 781 + (-1400) + (-81) + 300  =  (-400) + (-1400) + (-81) + 300 + 781  =  (-1881) + 1081  =  (-800)  = 800	1 1 1	73
30	Here, we have to find out if 36, 90, 90 and 75 are in proportion. Product of extremes = $36 \times 75 = 2700$ Product of means = $90 \times 90 = 8100$ So, they are not in continued proportion.	1 1 1	84
31	Distance travelled by scooter in 3 hours = 120 km Speed of scooter = $\frac{\text{Distance}}{\text{Time}} = \frac{120}{3} = 40 \text{ km/h}$ Distance travelled by train in 2 hours = 120 km Speed of train = $\frac{\text{Distance}}{\text{Time}} = \frac{120}{2} = 60 \text{ km/h}$ $\therefore$ Ratio of their speeds = $\frac{40}{60} = \frac{2}{3} = 2:3$ <b>OR</b>	1 1 1	NCERT EXEMPLAR

Let number of large classrooms be 3 parts and small classroom be 4 Here, 4 parts = 20 Here, 4 parts = 20 1 part = 20/4=5 3 puts = 3 × 5 = 15 So, number of large rooms = 15 (a) 11 m, m [n, 11 n (b) Point B (c) line 't' and line 't' T 3 For correct construction of AB = 4.5cm 1 1 1 5 For correct construction of CAB = 4.5cm 1 1 1 5 1 5 1 5 1 5 1 5 1 5 1 5 1 1 5 1 1 5 1 1 1 5 1 1 1 5 1 1 1 1 1 5 1 1 1 1 1 1 1 1 1 1 1 1 1			[	
$\begin{array}{c c c c c c c c c c c c c c c c c c c $		Let number of large classrooms be 3 parts and small classroom be 4		
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $		-	1	
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$		Here, 4 parts $= 20$		
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$		1 part = $20/4=5$	1	
$\begin{array}{c c c c c c c c c c c c c c c c c c c $		3 parts = $3 \times 5 = 15$		
$\begin{array}{c c c c c c c c c c c c c c c c c c c $		So, number of large rooms $= 15$	1	
32       (b) Point B       1       141         (c) line 't' and line 't'       1       1         33       For correct construction of AB = 4.5 cm       1       1         33       For correct construction of CD = 5.4 cm       1       153         Por correct construction of 2AB       CD       1       153         97       6 of arght angle = $\frac{3}{6} \times 90^9$ or $50^9$ 1       173         Supplement of $10^9 = 90^9 - 75^9 = 15^9$ 1       173         Supplement of $15^9 = 180^9 - 15^9 = 165^9$ 1       173         500 - 190 - (60 - (20 - 5)) = 101       1       1       19         = 500 - 190 - (60 - 15) - 101       1       1       19         = 500 - 190 - 501       1       1       19         = 465       0.5       1       19         = 500 - 35       0.5       2       40 $\frac{2}{2}$ 4, 65, 9       2       3, 1, 5, 9       2         = 3       1, 1, 1, 5, 3       1       1       19         = 50 - 35       2, 3, 15, 9       2       40       40         Here equired time duration is 360s = 6 minutes       5, 0, 11       1       1         So after 6 minutes is 4.06 pm, all the four			1	
2       (c) line 't' and line 't'       1       11         33       For correct construction of AB = 4.5cm       1       1         34       For correct construction of AB = -0.5 Acm       1       1         34 $\frac{5}{5}$ of a right angle $= \frac{5}{6}$ × 90 <sup>0</sup> = 75 <sup>0</sup> 1       1         34 $\frac{5}{5}$ of a right angle $= \frac{5}{6}$ × 80 <sup>0</sup> = 75 <sup>0</sup> 1       1         35 $\frac{5}{500}$ of a right angle $= \frac{5}{6}$ × 80 <sup>0</sup> = 75 <sup>0</sup> 1       1         36 $\frac{500 - 190 - (60 - 20 - 5)) - 101$ 1       1 $= 500 - 190 - 45 - 101$ 1       1       19 $= 500 - 190 - 45 - 101$ 1       19       19 $= 500 - 190 - 45 - 101$ 1       19       19 $= 500 - 190 - 45 - 101$ 1       19       19 $= 500 - 190 - 551$ 0.5       0.5       0.5 $= \frac{2}{2}$ $\frac{3}{1}$ $\frac{1}{5}$ $\frac{9}{2}$ $\frac{2}{2}$ $\frac{3}{1}$ $\frac{1}{5}$ 1 $= 10 - 190 - 551$ $\frac{5}{2}$ $\frac{1}{1}$ 1.1       19       10       11 $= 2$ $\frac{3}{4}$ $\frac{1}{5}$ $\frac{1}{2}$ $\frac{4}{2}$ $\frac{5}{2}$ $\frac{5}{2}$	20		1	1.4.1
33       For correct construction of AB = 4.5cm       1       1         34       For correct construction of CD = 5.4cm       1       153         5       of a right nugle = $\frac{5}{6} \times 90^{\circ} - 75^{\circ}$ 1       1         34       Complement of $60^{\circ} = 90^{\circ} - 75^{\circ} = 15^{\circ}$ 1       173         Supplement of $15^{\circ} = 180^{\circ} - 15^{\circ} = 165^{\circ}$ 1       1       173         35       500 - [90 - (60 - (20 - 5)] - 10]       1       1       19         5.3       500 - [90 - (60 - 13) - 10]       1       1       19         5.4       465       0.5       0.5       0.5         7       The required time duration = LCM of 8s, 12s, 15s and 18s       2       40 $\frac{2}{2}$ 8, 12, 15, 18       2       40 $\frac{2}{2}$ 8, 12, 5, 9       2       40 $\frac{3}{3}$ 1, 1, 5, 3       5       1       1 $\frac{1}{1}$ 1, 1, 1, 1       1       1       1       40 $\frac{2}{2}$ 8, 12, 5, 18       2       40       40 $\frac{1}{1}$ 1, 1, 1, 1       1       1       1       1 $\frac{2}{3}$ 1, 1, 5, 1       1       1       1 </td <td>32</td> <td></td> <td>1</td> <td>141</td>	32		1	141
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $		(c) fine t and fine f	1	
For correct construction of 2AB - CD       1         34 $\frac{5}{6}$ of a right angle $= \frac{5}{9} \times 90^{0} = 75^{0}$ 1         34       Complement of $60^{0} = 90^{0} - 75^{0} = 15^{0}$ 1         35 $500 - 190 - (60 - (20 - 5)) = 101$ 1 $500 - 190 - (60 - 15) = 100$ 1       1 $500 - 190 - 6(0 - 15) = 101$ 1       1 $500 - 190 - 45 - 101$ 1       1 $= 500 - 190 - 551$ 0.5       0.5 $= 465$ 0.5       0.5 $\frac{2}{2}$ $3, 15, 9$ 2 $\frac{2}{2}$ $1, 1, 5, 1$ 1 $1$ $1, 1, 5, 1$ 1 $\frac{2}{2}$ $3, 15, 9$ 2 $\frac{3}{3}$ $1, 1, 5, 1$ 1 $1$ $1, 1, 5, 1$ 1 $1$ $1, 1, 5, 1$ 1 $1$ $1, 1, 5, 1$ 1       40 $1$ $1, 1, 5, 1$ 1       1 $1$ $1, 1, 5, 1$ 1       1 $1$ $1, 1, 5, 1$ 1       1 $1$ $1, 5, 1$ 1       1 $1$ <td< td=""><td></td><td>For correct construction of <math>AB = 4.5</math>cm</td><td>1</td><td></td></td<>		For correct construction of $AB = 4.5$ cm	1	
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	33	For correct construction of $CD = 5.4$ cm	1	153
$\begin{array}{c c c c c c c c c c c c c c c c c c c $		For correct construction of 2AB – CD	1	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$			1	
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	24		1	170
$36 \frac{1}{36} = \frac{1}{36} + \frac{1}{3$	34		1	1/3
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		Supplement of $15^0 = 180^0 - 15^0 = 165^0$	1	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		$500 - [90 - {60 - (20 - 5)} - 10]$		
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$			1	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$			1	
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	35		1	19
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $			0.5	
The required time duration = LCM of 8s, 12s, 15s and 18s $ \frac{2   8, 12, 15, 18}{2   4, 6, 15, 9} \\ \frac{2}{2   2, 3, 15, 9} \\ \frac{3}{2   1, 1, 5, 3} \\ \frac{3}{5   1, 1, 5, 1} \\ 1, 1, 1, 1 $ LCM = 2 × 2 × 2 × 3 × 3 × 5 = 360 The required time duration is 360s = 6 minutes So, after 6 minutes i.e 4.06 pm, all the four bells will toll together again. LHS: a ÷ (b ÷ c) = (-225) + [15 + (-3)] = (-225) ÷ (-5) = 45 RHS: (a + b) ÷ (a ÷ c) = [(-225) + 15] + [(-225) ÷ (-5)] = 45 RHS: (a + b) ÷ (a ÷ c) = [(-225) + 15] + [(-225) ÷ (-5)] = (-15) + 45 = $\frac{-15}{45} = \frac{-1}{3}$ So, LHS $\neq$ RHS 37 (a) $242 \times (-95) + 242 \times (-4) - 242$ 1 = 242(-95 - 4 - 1) 1 $= (-24200)$ (b) $(-1)^9 + (-1)^{10} = (-1) + 1 = 0$ 1 Distance covered by train in 5 hours =550 km Distance covered by train in 1 hour = 550/5 = 110 km (a) Distance covered by train in 1 hours =550/5 = 110 km (b) No. of hours required to covered 330km = 330 ÷ 110 = 3 hours 1 (b) No. of hours required to covered 330km = 330 ÷ 110 = 3 hours 1 M 38 38 38 38 38 39 39 30 30 30 40 30 40 30 40 30 40 30 40 40 40 40 40 40 40 40 40 4				
$36 \begin{vmatrix} \frac{2}{2} & \frac{8}{8}, \frac{12}{2}, \frac{15}{5}, \frac{9}{2} \\ \frac{2}{2}, \frac{2}{3}, \frac{3}{3}, \frac{15}{5}, 9 \\ \frac{3}{3} & \frac{1}{1}, \frac{1}{5}, 5, \frac{3}{3} \\ \frac{3}{5} & \frac{1}{1}, \frac{1}{5}, \frac{5}{1} \\ \frac{1}{1}, \frac{1}{1}, \frac{1}{1}, \frac{1}{1} \\ LCM = 2 \times 2 \times 2 \times 3 \times 5 = 360 \\ The required time duration is 360s = 6 minutes \\ So, after 6 minutes i.e 4.06 pm, all the four bells will toll together again. 1 \\ \frac{1}{1} \\ \frac{1}{1}$			0.5	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$				
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$				
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$				
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$				
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		3 1, 3, 15, 9	2	
30 $\frac{5}{1}$ 1, 1, 5, 1       1       1, 1, 1, 1         LCM = 2 × 2 × 2 × 3 × 3 × 5 = 360       The required time duration is 360s = 6 minutes       1       1         So, after 6 minutes i.e 4.06 pm, all the four bells will toll together again.       1       1         LHS: $a \div (b \div c) = (-225) \div [15 \div (-3)] = (-225) \div (-5) = 45$ 2       67         So, LHS: $(a \div b) \div (a \div c) = [(-225) \div 15] \div [(-225) \div (-5)]$ 2       67         So, LHS ≠ RHS       OR       1       1         37 $(a) 242 \times (-95) + 242 \times (-4) - 242$ 1       65 $= 242(-95 - 4 - 1)$ 1       65       65         (b) $(-1)^9 + (-1)^{10} = (-1) + 1 = 0$ 1       65       66         Distance covered by train in 5 hours =550 km       2       86       86         (a) Distance covered by train in 2½ hours = 110 × 5/2 = 275 km       1       67         38       The ratio of vertical pole and its shadow is = 7:2       86       86         (a) Distance covered by train in 2½ hours = 110 × 5/2 = 275 km       1       89         x = (7 × 2.4) / 2 = 8.4       2       89       89	26			10
$\frac{1}{1, 1, 1, 1}$ $LCM = 2 \times 2 \times 2 \times 3 \times 3 \times 5 = 360$ The required time duration is $360s = 6$ minutes So, after 6 minutes i.e 4.06 pm, all the four bells will toll together again. $\frac{1}{1}$ $\frac{1}{1}$	30			40
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$				
The required time duration is $360s = 6$ minutes So, after 6 minutes i.e $4.06$ pm, all the four bells will toll together again.1 1LHS: $a \div (b \div c) = (-225) \div [15 \div (-3)] = (-225) \div (-5) = 45$ RHS: $(a \div b) \div (a \div c) = [(-225) \div 15] \div [(-225) \div (-5)]$ $= (-15) \div 45 = \frac{-15}{45} = \frac{-1}{3}$ 26737 <b>OR</b> (a) $242 \times (-95) + 242 \times (-4) - 242$ $= 242(-95 - 4 - 1)$ $= 242 \times (-100)$ $= (-24200)$ (b) $(-1)^9 + (-1)^{10} = (-1) + 1 = 0$ 165Distance covered by train in 5 hours =550 km Distance covered by train in 1 hour = 550/5 = 110 km (a) Distance covered by train in 2½ hours = 110 $\times 5/2 = 275$ km (b) No. of hours required to covered 330km = 330 $\div 110 = 3$ hours8638The ratio of vertical pole and its shadow is = 7:2 Hence, 7 : 2 = x : 2.4 By cross multiplication $x = (7 \times 2.4)/2 = 8.4$ 289				
So, after 6 minutes i.e 4.06 pm, all the four bells will toll together again.       1         LHS: $a \div (b \div c) = (-225) \div [15 \div (-3)] = (-225) \div (-5) = 45$ 2         RHS: $(a \div b) \div (a \div c) = [(-225) \div 15] \div [(-225) \div (-5)]$ 2 $= (-15) \div 45 = \frac{-15}{45} = \frac{-1}{3}$ 2         So, LHS $\neq$ RHS       0R         (a) $242 \times (-95) + 242 \times (-4) - 242$ 1 $= 242(-95 - 4 - 1)$ 1 $= 242 \times (-100)$ 1 $= (-24200)$ 1         (b) $(-1)^9 + (-1)^{10} = (-1) + 1 = 0$ 1         Distance covered by train in 5 hours = 550 km       2         Distance covered by train in 1 hour = 550/5 = 110 km       2         (a) Distance covered by train in 2½ hours = 110 $\times 5/2 = 275 \text{ km}$ 1         (b) No. of hours required to covered 330km = 330 $\div 110 = 3$ hours       1         M       OR       2 $x = (7 \times 2.4) / 2 = 8.4$ 2				
300, and 0 minutes for 100 pm, an fact out of the four order diginity       1         LHS: $a \div (b \div c) = (-225) \div [15 \div (-3)] = (-225) \div (-5) = 45$ 2         RHS: $(a \div b) \div (a \div c) = [(-225) \div 15] \div [(-225) \div (-5)]$ 2 $= (-15) \div 45 = \frac{-15}{45} = \frac{-1}{3}$ 2         So, LHS ≠ RHS       0R         (a) 242 × (-95) + 242 × (-4) - 242       1 $= 242(-95 - 4 - 1)$ 1 $= 242 \times (-100)$ 1 $= (-24200)$ 65         (b) $(-1)^9 + (-1)^{10} = (-1) + 1 = 0$ 1         Distance covered by train in 5 hours = 550 km       2         Distance covered by train in 1 hour = 550/5 = 110 km       2         (a) Distance covered by train in 2½ hours = 110 × 5/2 = 275 km       1         (b) No. of hours required to covered 330km = 330 ÷ 110 = 3 hours       1         38       The ratio of vertical pole and its shadow is = 7:2       89         Hence, 7 : 2 = x : 2.4       89       2         By cross multiplication       2       89 $x = (7 \times 2.4) / 2 = 8.4$ 2		1	1	
LHS: $a \div (b \div c) = (-225) \div [15 \div (-3)] = (-225) \div (-5) = 45$ 2         RHS: $(a \div b) \div (a \div c) = [(-225) \div 15] \div [(-225) \div (-5)]$ 2 $= (-15) \div 45 = \frac{-15}{45} = \frac{-1}{3}$ 2         So, LHS $\neq$ RHS       OR         (a) $242 \times (-95) + 242 \times (-4) - 242$ 1 $= 242(-95 - 4 - 1)$ 1 $= 242 \times (-100)$ 1 $= (-24200)$ 1         (b) $(-1)^9 + (-1)^{10} = (-1) + 1 = 0$ 1         Distance covered by train in 5 hours = 550 km       2         Distance covered by train in 1 hour = 550/5 = 110 km       2         (a) Distance covered by train in 1 hour = 550/5 = 110 km       2         (b) No. of hours required to covered 330km = 330 ÷ 110 = 3 hours       1 <i>OR</i> 1       0         (b) No. of hours required to covered 330km = 7:2       4         Hence, 7 : 2 = x : 2.4       2       89         y cross multiplication       2       89 $x = (7 \times 2.4) / 2 = 8.4$ 2       89		So, after 6 minutes i.e 4.06 pm, all the four bells will toll together again.		
RHS: $(a \div b) \div (a \div c) = [(-225) \div 15] \div [(-225) \div (-5)]$ $= (-15) \div 45 = \frac{-15}{45} = \frac{-1}{3}$ 2       67         37       OR (a) $242 \times (-95) + 242 \times (-4) - 242$ = 242(-95 - 4 - 1) $= 242 \times (-100)$ = (-24200)       1 1 0       65         (b) $(-1)^9 + (-1)^{10} = (-1) + 1 = 0$ 1       65         Distance covered by train in 5 hours = 550 km Distance covered by train in 1 hour = 550/5 = 110 km (a) Distance covered by train in 2½ hours = 110 $\times 5/2 = 275 \text{ km}$ 2       86         (a) Distance covered by train in 2½ hours = 110 $\times 5/2 = 275 \text{ km}$ 1 1       86       86         38       The ratio of vertical pole and its shadow is = 7:2 Hence, 7 : 2 = x : 2.4 By cross multiplication $x = (7 \times 2.4) / 2 = 8.4$ 2       89		1110 + (1 + 1) + (-225) + [15 + (-2)] + (-225) + (-5) + 45		
$= (-15) \div 45 = \frac{-15}{45} = \frac{-1}{3}$ So, LHS $\neq$ RHS $(a)  242 \times (-95) + 242 \times (-4) - 242 = 242(-95 - 4 - 1) = 242 \times (-100) = (-24200)$ (b) $(-1)^9 + (-1)^{10} = (-1) + 1 = 0$ Distance covered by train in 5 hours =550 km Distance covered by train in 1 hour = 550/5 = 110 km (a) Distance covered by train in 2½ hours = 110 \times 5/2 = 275 km (b) No. of hours required to covered 330km = 330 $\div$ 110 = 3 hours $(a) Distance covertial pole and its shadow is = 7:2$ Hence, $7: 2 = x: 2.4$ By cross multiplication $x = (7 \times 2.4) / 2 = 8.4$ $(b) No. = (7 \times 2.4) / 2 = 8.4$ $(c) No. = (7 \times 2.4) / 2 = 8.4$			2	
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37       So, LHS $\neq$ RHS       0R       1         37       (a) $242 \times (-95) + 242 \times (-4) - 242$ 1 $= 242(-95 - 4 - 1)$ 1       1 $= 242 \times (-100)$ 1       65         (b) $(-1)^9 + (-1)^{10} = (-1) + 1 = 0$ 1       65         Distance covered by train in 5 hours = 550 km         Distance covered by train in 1 hour = 550/5 = 110 km       2       86         (a) Distance covered by train in 2½ hours = $110 \times 5/2 = 275$ km       1       1         (b) No. of hours required to covered 330km = 330 ÷ 110 = 3 hours       1       86         38       The ratio of vertical pole and its shadow is = 7:2       4       89         Hence, 7 : 2 = x : 2.4       2       89       89 $x = (7 \times 2.4)/2 = 8.4$ 2       89		$=(-15) \div 45 = \frac{-15}{-1} = \frac{-1}{-1}$	2	01
37       OR       1         (a) $242 \times (-95) + 242 \times (-4) - 242$ 1 $= 242(-95 - 4 - 1)$ 1 $= 242 \times (-100)$ 1 $= (-24200)$ 1         (b) $(-1)^9 + (-1)^{10} = (-1) + 1 = 0$ 1         Distance covered by train in 5 hours =550 km         Distance covered by train in 1 hour = 550/5 = 110 km       2         (a) Distance covered by train in 2½ hours = $110 \times 5/2 = 275$ km       1         (b) No. of hours required to covered 330km = 330 ÷ 110 = 3 hours       1         38       The ratio of vertical pole and its shadow is = 7:2       2         Hence, $7 : 2 = x : 2.4$ 2         By cross multiplication       2 $x = (7 \times 2.4) / 2 = 8.4$ 2		<b>T</b> 5 5		
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(b) $(-1)^9 + (-1)^{10} = (-1) + 1 = 0$ 1Distance covered by train in 5 hours =550 km2Distance covered by train in 1 hour = 550/5 = 110 km2(a) Distance covered by train in 2½ hours = $110 \times 5/2 = 275$ km1(b) No. of hours required to covered 330km = $330 \div 110 = 3$ hours1OR138The ratio of vertical pole and its shadow is = 7:2Hence, 7 : 2 = x : 2.42By cross multiplication2x = $(7 \times 2.4)/2 = 8.4$ 2			I	65
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38OR38The ratio of vertical pole and its shadow is = 7:2Hence, $7: 2 = x: 2.4$ By cross multiplication $x = (7 \times 2.4) / 2 = 8.4$ 2289				
38The ratio of vertical pole and its shadow is = 7:2 Hence, $7: 2 = x: 2.4$ By cross multiplication $x = (7 \times 2.4) / 2 = 8.4$ 289289		(b) No. of hours required to covered $330$ km = $330 \div 110 = 3$ hours	1	
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$x = (7 \times 2.4) / 2 = 8.4$			2	89
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Length of pole 8.4m		$x = (7 \times 2.4) / 2 = 8.4$	r	
		Length of pole 8.4m	<i>L</i>	

	(a) $A - D - B$ , $A - F - C$ (Any relevance answer)	1	
39	(b) Point F	1	142
39	(c) Line m, r, p	1	142
	(d) (p, l), (n, r) (Any other correct answer)	1	
	(a) ∠5	1	
40	(b) ∠3, ∠4, ∠5, ∠6 (Any two)	1	179
40	(c) $\angle 1$ , $\angle 7$ or $\angle 2$ , $\angle 8$	1	179
	(d) ∠7	1	