



MATHS

Wizard

(A MAIN COURSE BOOK OF MATHEMATICS)

Math 5
Solution

TEACHER'S HELP BOOK

MATHS WIZARD-5

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4. (a) Two lakh forty seven thousand seven hundred forty five.
(b) Thirty two lakh thirty five thousand three hundred sixty seven.
(c) Eighteen lakh fifty six thousand nine hundred eighty nine.
(d) Four crore forty five lakh thirty six thousand one hundred eighty eight.
(e) Two crore seventy five lakh forty four thousand six hundred sixty six.
(f) Fifty five crore forty five lakh seventy eight thousand one hundred thirty five.

5. (a) Two million four hundred fifty six thousand seven hundred fifty.
(b) Five million three hundred thousand seven hundred forty five.
(c) Sixty seven million seven hundred thousand one hundred eighty six.
(d) Thirty eight million two hundred fifty seven thousand one hundred ninety eight.
(e) Six hundred twenty four million four hundred fifty six thousand three hundred forty six.

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1. (a) 1436750; 1436912; 2119116; 21724115
(b) 61422968; 62296141; 62896142; 69628142
(c) 21004508; 21005408; 21040505; 21050408
(d) 232539004; 2333281004; 234285004; 234384001

- 2.** (a) 2824960; 2824690; 2824096; 2824069
(b) 51041808; 51040803; 51014880; 51014808
(c) 63425896; 59632143; 43140110; 33972858
(d) 292296531; 292296153; 292296132; 292269153

3. (a) 25644511
(b) 8354614
(c) 341236401

4. (a) 2612016
(b) 53612817
(c) 212481362

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- 5.** (a) > (b) <
 (c) > (d) =
 (e) = (f) =

1. (a) 1003378; 8733100

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1. (a)

$\begin{array}{r} 30526 \\ 15044 \\ + 36743 \\ \hline 82313 \end{array}$
--

(b)

3	7	7	7	2
1	6	6	4	
+	4	5	8	
	3	9	8	9
	4			

$$\begin{array}{r}
 (c) \quad \begin{array}{r}
 5 & 2 & 8 & 3 & 2 \\
 3 & 5 & 2 & 3 & 7 \\
 + & 1 & 1 & 7 & 4 \\
 \hline
 8 & 9 & 2 & 4 & 3
 \end{array}
 \end{array}$$

2. (a)

$ \begin{array}{r} 65788 \\ -44963 \\ \hline 20825 \end{array} $

$$(b) \quad \begin{array}{r} 95406 \\ -26915 \\ \hline 68491 \end{array}$$

$$(c) \quad \begin{array}{r} 67008 \\ -21363 \\ \hline 45645 \end{array}$$

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3. (a) 13800 (b) 50274 (c) 37384 (d) 18765
(e) 52678 (f) 12476

$$4. \quad 250000 - (57450 + 93425) = 250000 - 150875 = 99125$$

$$5. \quad 47845 - 3354 = 44491$$

$$6. \text{ ₹ } 398175 + \text{ ₹ } 234281 = \text{ ₹ } 632456$$

7. No. of females = Total population – No. of males

$$= 400000 - 268280$$

$$= 131720$$

8. (a)

2	6	1	7	2
+				
4	3	1	4	6
6				
9	3	1	8	

$$(b) \quad \begin{array}{r} 612245 \\ +327651 \\ \hline 939896 \end{array}$$

$$\begin{array}{r}
 (c) \quad \boxed{\begin{array}{r} 5 & 5 & 3 & 1 & 7 & 6 \\ + & 4 & 1 & 6 & 4 & 5 & 3 \\ \hline 9 & 6 & 9 & 6 & 2 & 9 \end{array}}
 \end{array}$$

9. (a)
$$\begin{array}{r} 674893 \\ +317830 \\ \hline 357063 \end{array}$$

$$\begin{array}{r}
 (b) \quad \begin{array}{r} 8 & 9 & 9 & 9 & 9 & 9 \\ + & 6 & 4 & 0 & 8 & 15 \\ \hline 2 & 5 & 9 & 1 & 8 & 4 \end{array}
 \end{array}$$

$$(c) \quad \begin{array}{r} 900000 \\ + 532989 \\ \hline 367011 \end{array}$$

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$$\begin{array}{r}
 3176502 \\
 +4823273 \\
 \hline
 7999775
 \end{array}$$

$$\begin{array}{r}
 (b) \quad \boxed{5\ 2\ 3\ 5\ 8\ 7\ 2} \\
 \quad \quad + 4\ 9\ 4\ 2\ 1\ 2\ 1 \\
 \hline
 \boxed{1\ 0\ 1\ 7\ 7\ 9\ 9\ 3}
 \end{array}$$

(c)

3	1	5	6	7	5	8
+ 2 9 4 8 3 8 3						
6 1 0 5 1 5 1						

(d)

2	5	6	8	7	4	5
+ 4 6 7 9 6 5 3						
7 2 4 8 3 9 8						

(e)

8	0	9	2	3	6	5	4
+ 1 8 9 4 6 8 6 6							
9 9 8 7 0 5 2 0							

(f)

2	9	9	7	0	9	8	5
+ 3 2 3 6 5 9 4 5							
6 2 3 3 6 9 3 0							

2. (a)

2	5	7	3			
3	9	8	6	6	2	3
+ 4 8 3 5 7 9 6						
8 8 2 4 9 9 2						

(b)

6	7	6	3	2		
3	8	6	5	7	9	6
+ 5 7 9 6 5 2 3 1						
6 1 8 9 8 6 5 9						

(d)

3	1	5	2	0	4	8	1
+ 4 3 5 3 9 6 1 8							
7 5 0 6 0 0 9 9							

(e)

5	0	9	3	4	2	1
+ 7 3 2 7 1 8 9						
1 2 4 2 0 6 1 0						

3. $3765432 + 42586 = 38,08,018$

4. Total money spent = $532400 + ₹ 753721 + ₹ 300739$

$$= ₹ 15,86,860$$

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5. Total votes = $(2724738 + 3554936 + 437569) - 145607$
 $= 6571636$

6. Total no. of students = $3751650 + 2842725$
 $= 6594375$

7. Total no. of toys = $546475 + 247367$
 $= 793842$

8. Total money spent = $₹ 350650 + ₹ 574450 + ₹ 445678$
 $= ₹ 13,70,778$

9. Total chocolates produced = $2445430 + 3224700 + 1220275$
 $= 6890405$

4. Let the biggest number be x

$$x - 2528978 = 3450172$$

$$x = 3450172 + 2528978$$

$$= 5979150$$

Hence, the biggest number is 5979150.

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1. (a)

$$\begin{array}{r} 6647813 \\ - 3545310 \\ \hline 3102503 \end{array}$$

(b)

$$\begin{array}{r} 8856425 \\ - 6656313 \\ \hline 2200112 \end{array}$$

(c)

$$\begin{array}{r} 73425062 \\ - 43110518 \\ \hline 30314544 \end{array}$$

(d)

$$\begin{array}{r} 52187463 \\ - 14899742 \\ \hline 37287721 \end{array}$$

2. (a)

$$\begin{array}{r} 7\boxed{4}36\boxed{8}73 \\ - \boxed{4}38\boxed{9}658 \\ \hline 3047215 \end{array}$$

(b)

$$\begin{array}{r} 68\boxed{7}6\boxed{3}\boxed{5}13 \\ - 21\boxed{6}324\boxed{5}6 \\ \hline 471\boxed{3}1\boxed{0}57 \end{array}$$

3. (a)

$$\begin{array}{r} 5309728 \\ - 2410817 \\ \hline 2898911 \end{array}$$

(b)

$$\begin{array}{r} 8650321 \\ - 5801840 \\ \hline 2848481 \end{array}$$

(c)

$$\begin{array}{r} 6920020 \\ - 3594210 \\ \hline 3325810 \end{array}$$

(d)

$$\begin{array}{r} 9524320 \\ - 7039840 \\ \hline 2484480 \end{array}$$

4. Other number = $52811500 - 35699297$

$$= 17112203$$

5. $48078875 + x = 65555555$

$$x = 65555555 - 48078875$$

$$= 17476680$$

6. Population of city A = 12445720

Population of city B = 12947251

$$\Rightarrow 12947251 - 12445720$$

$$= 501531$$

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7. No. of girls = $3685700 - 2432150$

$$= 1253550$$

8. Let the smaller number be x

$$92555095 - x = 44033152$$

$$x = 92555095 - 44033152$$

$$= 48521943$$

1. (a)

$$\begin{array}{r} 3848780 \\ -2423350 \\ \hline 1425430 \end{array}$$

(b)

$$\begin{array}{r} 6270458 \\ -5525250 \\ \hline 745208 \end{array}$$

(c)

$$\begin{array}{r} 2637175 \\ -15000 \\ \hline 2622175 \end{array}$$

(d)

$$\begin{array}{r} 4926170 \\ -3617285 \\ \hline 1308885 \end{array}$$

(e)

$$\begin{array}{r} 77604715 \\ -42272400 \\ \hline 35332315 \end{array}$$

(f)

$$\begin{array}{r} 52476175 \\ -26217144 \\ \hline 26259031 \end{array}$$

(g)

$$\begin{array}{r} 26044550 \\ -3617390 \\ \hline 22427260 \end{array}$$

(h)

$$\begin{array}{r} 87582055 \\ -31756440 \\ \hline 55825615 \end{array}$$

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1. (a)

$$\begin{array}{r} 8) 254(31 \\ -24 \\ \hline 14 \\ -8 \\ \hline 6 \end{array}$$

(b)

$$\begin{array}{r} 5) 3545(206 \\ -35 \\ \hline 045 \\ -45 \\ \hline 0 \end{array}$$

$$Q = 31, R = 6$$

$$Q = 709, R = 0$$

$$(c) \begin{array}{r} 21) \overline{)7\ 3\ 2\ 4} (348 \\ -6\ 3 \\ \hline 1\ 0\ 2 \\ 8\ 4 \\ \hline 1\ 8\ 4 \\ 1\ 6\ 8 \\ \hline 1\ 6 \end{array}$$

$$(d) \begin{array}{r} 88) \overline{)8\ 8\ 8\ 8} (101 \\ -8\ 8 \\ \hline 0\ 8\ 8 \\ -8\ 8 \\ \hline 0 \end{array}$$

$Q = 348, R = 16$

$Q = 101, R = 0$

2. (a) $3725 \times 8 = 29800$ (b) $1845 \times 34 = 62730$
 (c) $5184 \times 20 = 102960$ (d) $2005 \times 225 = 451125$
 (e) $2145 \times 440 = 943800$ (f) $3784 \times 125 = 473000$
3. Total saving $= ₹ 2525 \times 23$
 $= ₹ 58075$
4. Total no. of hankies $= 135 \times 225$
 $= 58075$
5. Total quantity of wheat $= 2345 \times 98$
 $= 229810$

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1. (a) $3175 \times 10 = 31750$
 (b) $28654 \times 10 = 286540$
 (c) $6584 \times 100 = 658400$
 (d) $42785 \times 100 = 4278500$
 (e) $58065 \times 1000 = 5806500$
 (f) $85846 \times 100 = 84846000$

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2. (a) $2 \times 764 \times 5 = 764 \times 10 = 7640$
 (b) $5 \times 6891 \times 20 = 6891 \times 100 = 689100$
 (c) $125 \times 842 \times 4 = 842 \times 500 = 421000$
 (d) $25 \times 289 \times 4 = 289 \times 100 = 28900$

$$(e) \quad 125 \times 2792 \times 8 = 2792 \times 1000 = 2792000$$

$$(f) \quad 500 \times 6257 \times 2 = 6257 \times 1000 = 6257000$$

$$3. (a) 56 \times 103 = 5768$$

$$(b) 81 \times 95 = 7695$$

$$(c) \quad 44 \times 174 = 7656$$

$$(d) 16 \times 3064 = 49024$$

$$(e) \ 63 \times 91 = 5733$$

$$(f) \quad 72 \times 997 = 71784$$

4. (a) 2492 (b) 205

(c) 257

(d) 1

(e) 1301

(f) 0

(g) 0

(h) 8288

$$(i) \quad (26 \times 100) + (26 \times 73)$$

$$(j) \quad (324 \times 1000) + (324 \times 27)$$

$$(k) \quad (157 \times 741) + (157 \times 309)$$

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1. (a) $36854 \times 81 = 2985174$

$$(b) \ 39807 \times 12 = 477684$$

$$(c) \quad 12138 \times 67 = 813246$$

$$(d) \quad 43609 \times 253 = 11033077$$

(e) $52135 \times 633 = 33001455$

$$(f) \quad 34912 \times 136 = 4748032$$

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$$2. (a) 279 \times 175 \times 40 = 1953000$$

$$(b) \quad 532 \times 166 \times 22 = 1942864$$

$$(c) \quad 384 \times 446 \times 25 = 4281600$$

$$(d) \quad 360 \times 145 \times 27 = 1409400$$

$$(e) \quad 464 \times 143 \times 34 = 2255968$$

$$(f) \quad 440 \times 549 \times 15 = 3623400$$

- 3.** Total no. of apples = 136×1230
= 167280

4. Total no. of students = 1565×530
= 829450

5. No. of pens to be produced = 2530900×17608
= 2513292

6. Total no. of pages = 127125×229
= 29111625

7. Total money paid = $12346 \times ₹ 298$
= ₹ 3679108

8. Total money saved = ₹ 38290×24
= ₹ 918960

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$$\begin{array}{r}
 100) \overline{)3175} (31 \\
 -300 \\
 \hline
 175 \\
 -100 \\
 \hline
 75
 \end{array}$$

$$(b) \quad \begin{array}{r} 1000 \overline{)22847(22} \\ -2000 \\ \hline 2847 \\ -2000 \\ \hline 847 \end{array}$$

$$Q = 31, R = 75$$

$$Q = 22, R = 847$$

$$(c) \quad \begin{array}{r} 10000 \\ \overline{)56758} \\ -50000 \\ \hline 6758 \end{array}$$

$$(d) \quad \begin{array}{r} 1000 \\ \overline{) 75476} \\ -7000 \\ \hline 5476 \\ -5000 \\ \hline 476 \end{array}$$

$$Q = 5, R = 6758$$

$$Q = 75, R = 476$$

$$\begin{array}{r}
 (e) \quad 10000 \overline{) 917567} (91 \\
 \underline{-90000} \\
 \hline
 17567 \\
 \underline{-10000} \\
 \hline
 7567
 \end{array}$$

Q = 91, R = 7567

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$$\begin{aligned}3. \text{ Dividend} &= \text{Divisor} \times \text{Quotient} + \text{Remainder} \\&= 33 \times 26 + 12 \\&= 870\end{aligned}$$

$$\begin{aligned}
 4. \text{ Dividend} &= \text{Divisor} \times \text{Quotient} + \text{Remainder} \\
 3699 &= \text{Divisor} \times 231 + 3 \\
 3699 &= x \times 231 + 3 \\
 231x + 3 &= 3699 \\
 231x &= 3699 - 3 \\
 x &= 3699 - 3 \\
 x &= \frac{3696}{231} \\
 x &= 16
 \end{aligned}$$

Hence, Divisor = 16

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$$\begin{array}{r}
 27) \overline{2\ 4\ 2\ 9\ 6\ 1} (8998 \\
 -2\ 1\ 6 \\
 \hline
 2\ 6\ 9 \\
 -2\ 4\ 3 \\
 \hline
 2\ 6\ 6 \\
 2\ 4\ 3 \\
 \hline
 2\ 3\ 1 \\
 -2\ 1\ 6 \\
 \hline
 1\ 5
 \end{array}$$

$$\begin{array}{r}
 (b) \quad 65 \overline{)7\ 4\ 2\ 0\ 1\ 6} \quad (11415 \\
 \underline{- 6\ 5} \\
 \underline{\quad\quad\quad 9\ 2} \\
 \underline{- 6\ 5} \\
 \underline{\quad\quad\quad 2\ 7\ 0} \\
 \underline{- 2\ 6\ 0} \\
 \underline{\quad\quad\quad 1\ 0\ 1} \\
 \underline{- 6\ 5} \\
 \underline{\quad\quad\quad 3\ 6\ 6} \\
 \underline{- 3\ 2\ 5} \\
 \underline{\quad\quad\quad 4\ 1}
 \end{array}$$

$$Q = 8998, R = 15$$

$$Q = 11415, R = 41$$

(c)
$$\begin{array}{r} 12 \overline{) 898347} \\ -84 \\ \hline 58 \\ -48 \\ \hline 103 \\ -96 \\ \hline 74 \\ -72 \\ \hline 27 \\ -24 \\ \hline 3 \end{array} (74862)$$

(d)
$$\begin{array}{r} 37 \overline{) 483297} \\ -37 \\ \hline 113 \\ -111 \\ \hline 222 \\ -222 \\ \hline 097 \\ -74 \\ \hline 23 \end{array} (13062)$$

$Q = 74862, R = 3$

$Q = 13062, R = 23$

(e)
$$\begin{array}{r} 223 \overline{) 388045} \\ -223 \\ \hline 1650 \\ -1561 \\ \hline 894 \\ -892 \\ \hline 25 \end{array} (1740)$$

(f)
$$\begin{array}{r} 310 \overline{) 910050} \\ -620 \\ \hline 2900 \\ -2790 \\ \hline 1105 \\ -930 \\ \hline 1750 \\ -1550 \\ \hline 200 \end{array} (2935)$$

$Q = 1740, R = 25$

$Q = 2935, R = 200$

(g)
$$\begin{array}{r} 400 \overline{) 360428} \\ -3600 \\ \hline 428 \\ -400 \\ \hline 28 \end{array} (901)$$

(h)
$$\begin{array}{r} 319 \overline{) 433112} \\ -319 \\ \hline 1141 \\ -957 \\ \hline 1841 \\ -1595 \\ \hline 2462 \\ -2233 \\ \hline 299 \end{array} (1357)$$

$Q = 901, R = 28$

$Q = 1357, R = 229$

(i)
$$\begin{array}{r} 47 \overline{) 5208279} (110814 \\ 47 \\ \hline 50 \\ -47 \\ \hline 382 \\ -376 \\ \hline 67 \\ -47 \\ \hline 209 \\ -188 \\ \hline 21 \end{array}$$

$$Q = 110814, R = 21$$

(j)
$$\begin{array}{r} 5135 \overline{) 6567890} (1279 \\ -5135 \\ \hline 14328 \\ -10270 \\ \hline 40589 \\ -35945 \\ \hline 46440 \\ -46215 \\ \hline 225 \end{array}$$

$$Q = 1279, R = 225$$

(k)
$$\begin{array}{r} 2326 \overline{) 6728615} (2892 \\ -4625 \\ \hline 20766 \\ -18608 \\ \hline 21581 \\ -20934 \\ \hline 6475 \\ -4652 \\ \hline 1823 \end{array}$$

$$Q = 2892, R = 1823$$

$$(1) \quad 2035) \overline{7872879} (3868$$

$$\begin{array}{r} -6105 \\ \hline 17678 \\ -16280 \\ \hline 13987 \\ -12210 \\ \hline 17779 \\ -16280 \\ \hline 1499 \end{array}$$

$$Q = 3868, R = 1499$$

2. Dividend = Divisor × Quotient + Remainder

$$= 235 \times 18 + 32$$

$$= 4230 \times 32$$

$$= 4262$$

3. Total no. of oranges = 667275

$$\text{No. of cartons} = 205$$

$$\begin{aligned} \text{No. of oranges in a carton} &= 667275 \div 205 \\ &= 3255 \text{ oranges} \end{aligned}$$

4. Let the number be x = 667275

$$x \times 726 = 2037156$$

$$x = \frac{2037156}{726}$$

$$x = 2806$$

Hence, the other number is 2806.

$$(5) \quad 621) \overline{1055100} (1699$$

$$\begin{array}{r} -621 \\ \hline 4341 \\ -3726 \\ \hline 6150 \\ -5589 \\ \hline 5610 \\ -5589 \\ \hline 21 \end{array}$$

Hence, the number to be subtracted is 21.

6. No. of bananas that are good = $1528094 - 919$
= 1527175

No. of baskets = 925

No. of bananas in each basket = $1527175 \div 925$
= 1651

7. No. of shares = $7568825 \div 425 = 17809$

8. Let the other number be x

$$\begin{array}{rcl} x \times 882 & = 127008 \\ x & = \frac{127008}{882} \\ x & = 144 \end{array}$$

Hence, the other number is 144.

9. Cost of 1 T.V set = $\frac{\text{₹}3194375}{125}$
= ₹ 25,555

10. No. of rows = $52650 \div 975$
= 54 rows

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1. (a) Factors of 8 = 4, 2, 4, 8

Factors of 12 = 1, 2, 3, 4, 6, 12

Common factors = 4

(b) Factors of 5 = 1, 5

Factors of 7 = 1, 7

Common factors = 1

(c) Factors of 12 = 1, 2, 3, 4, 6, 12

Factors of 18 = 1, 2, 3, 6, 9, 18

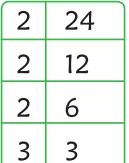
Common factors = 6

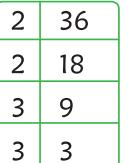
(d) Factors of 10 = 1, 5, 25

Factors of 20 = 1, 2, 4, 5, 10, 20

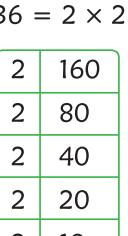
Common factors = 2, 5, 10

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1. (a)  $24 = 2 \times 2 \times 2 \times 3$

(b)  $36 = 2 \times 2 \times 3 \times 3$

(c)  $90 = 2 \times 3 \times 3 \times 5$

(d)  $160 = 2 \times 2 \times 2 \times 2 \times 2 \times 5$

(e)

2	180
2	90
3	45
3	15
5	5
	1

(f)

2	200
2	100
2	50
5	25
5	5
	1

$$180 = 2 \times 2 \times 3 \times 3 \times 5$$

$$200 = 2 \times 2 \times 2 \times 5 \times 5$$

(g)

2	220
2	110
5	55
11	11
	1

(h)

2	224
2	112
2	56
2	28
2	14
7	7
	1

$$220 = 2 \times 2 \times 5 \times 11$$

$$224 = 2 \times 2 \times 2 \times 2 \times 2 \times 7$$

(i)

2	250
5	125
5	25
5	5
	1

(j)

2	280
2	140
2	70
5	35
7	7
	1

$$250 = 2 \times 5 \times 5 \times 5$$

$$280 = 2 \times 2 \times 2 \times 5 \times 7$$

2. (a) ✓

(a) ✗

(c) ✗

(d) ✓

1. (a)

2	16
2	8
2	4
2	2
	1

(b)

2	32
2	16
2	8
2	4
2	2
	1

$$16 = 2 \times 2 \times 2 \times 2$$

$$32 = 2 \times 2 \times 2 \times 2 \times 2$$

(c)

5	35
7	7
	1

$$35 = 5 \times 7$$

(d)

2	40
2	20
2	10
5	5
	1

$$40 = 2 \times 2 \times 2 \times 5$$

(e)

3	75
5	25
5	5
	1

$$75 = 3 \times 5 \times 5$$

(f)

2	88
2	44
2	22
11	11
	1

$$88 = 2 \times 2 \times 2 \times 11$$

(g)

2	90
3	45
3	15
5	5
	1

$$90 = 2 \times 3 \times 3 \times 5$$

(h)

2	96
2	48
2	24
2	12
3	6
	2

$$96 = 2 \times 2 \times 2 \times 2 \times 2$$

(i)

2	140
2	70
5	35
7	7
	1

$$40 = 2 \times 2 \times 5 \times 7$$

(j)

2	150
3	75
5	25
5	5
	1

$$150 = 2 \times 3 \times 5 \times 5$$

(k)

3	165
5	55
11	11
	1

$$165 = 3 \times 5 \times 11$$

(l)

2	300
2	150
3	75
5	25
5	5
	1

$$300 = 2 \times 2 \times 3 \times 5 \times 5$$

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$$\begin{array}{r}
 2. \quad 1085) \overline{1435} (1 \\
 -1085 \\
 \hline
 350) \overline{1085} (3 \\
 -1050 \\
 \hline
 35) \overline{350} (10 \\
 -350 \\
 \hline
 0
 \end{array}$$

H.C.F = 35

3. Ist no. = $710 - 8 = 702$

IInd no. = $980 - 5 = 975$

$$\begin{array}{r}
 702) \overline{975} (1 \\
 -702 \\
 \hline
 73) \overline{702} (9 \\
 -657 \\
 \hline
 45) \overline{73} (1 \\
 -45 \\
 \hline
 28) \overline{45} (1 \\
 -28 \\
 \hline
 17) \overline{28} (1 \\
 -17 \\
 \hline
 11) \overline{17} (1 \\
 -11 \\
 \hline
 6) \overline{11} (1 \\
 -6 \\
 \hline
 5) \overline{6} (1 \\
 -5 \\
 \hline
 1) \overline{5} (1 \\
 -5 \\
 \hline
 0
 \end{array}$$

H.C.F = 1

4. Subtracting 7 from both number

$645 - 7 = 638$

$790 - 7 = 783$

H.C.F of 638 and 783 = 29

Hence, the answer is 29.

$$\begin{array}{r}
 5. \quad 342) \overline{450} (1 \\
 -342 \\
 \hline 108) \overline{342} (9 \\
 -324 \\
 \hline 18) \overline{108} (6 \\
 -108 \\
 \hline 0 \\
 \\
 18) \overline{540} (30 \\
 -540 \\
 \hline 0
 \end{array}$$

H.C.F = 18

$$\begin{array}{r}
 6. (a) \quad 81) \overline{108} (1 \\
 -81 \\
 \hline 27) \overline{81} (33 \\
 -81 \\
 \hline 0
 \end{array}$$

H.C.F = 27

$$\begin{array}{r}
 (b) \quad 96) \overline{120} (1 \\
 -96 \\
 \hline 24) \overline{96} (4 \\
 -96 \\
 \hline 0
 \end{array}$$

H.C.F = 24

$$\begin{array}{r}
 (c) \quad 168) \overline{216} (1 \\
 -168 \\
 \hline 48) \overline{168} (3 \\
 -144 \\
 \hline 24) \overline{48} (2 \\
 -48 \\
 \hline 0
 \end{array}$$

H.C.F = 24

$$\begin{array}{r}
 (d) \quad 135) \overline{180} (1 \\
 -135 \\
 \hline 45) \overline{135} (3 \\
 -135 \\
 \hline 0
 \end{array}$$

H.C.F = 45

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$$\begin{array}{r}
 7. (a) \quad 48) \overline{108} (2 \\
 -96 \\
 \hline 12) \overline{48} (4 \\
 -48 \\
 \hline 0
 \end{array}$$

H.C.F = 12

$$\begin{array}{r}
 (b) \quad 85) \overline{125} (1 \\
 -85 \\
 \hline 40) \overline{85} (2 \\
 -80 \\
 \hline 5) \overline{40} (8 \\
 -40 \\
 \hline 0
 \end{array}$$

H.C.F = 5

$$(c) \begin{array}{r} 192 \\ 72) \overline{192} \\ -144 \\ \hline 48) 72(2 \\ -48 \\ \hline 24) 48(2 \\ -48 \\ \hline 0 \end{array}$$

H.C.F = 24

$$(d) \begin{array}{r} 801 \\ 99) \overline{801} \\ -792 \\ \hline 9) 99(11 \\ -99 \\ \hline 0 \end{array}$$

H.C.F = 9

$$(e) \begin{array}{r} 442 \\ 130) \overline{442} \\ -390 \\ \hline 42) 130(3 \\ -126 \\ \hline 4) 42(1 \\ -40 \\ \hline 2) 4(2 \\ -4 \\ \hline 0 \end{array}$$

H.C.F = 2

$$\begin{array}{r} 720 \\ 2) \overline{720} \\ -7 \\ \hline 12 \\ 12 \\ \hline 0 \end{array} \quad (260)$$

H.C.F = 2

$$(f) \begin{array}{r} 336 \\ 144) \overline{336} \\ -288 \\ \hline 48) 144(3 \\ -144 \\ \hline 0 \end{array}$$

H.C.F = 48

$$\begin{array}{r} 2016 \\ 48) \overline{2016} \\ -192 \\ \hline 96 \\ -96 \\ \hline 0 \end{array} \quad (42)$$

H.C.F = 48

$$(g) \begin{array}{r} 1312 \\ 164) \overline{1312} \\ -1312 \\ \hline 0 \end{array}$$

H.C.F = 164

$$\begin{array}{r} 1640 \\ 164) \overline{1640} \\ -1640 \\ \hline 0 \end{array} \quad (10)$$

H.C.F = 164

$$(h) \quad 480 \overline{) 648} (1$$

$$\begin{array}{r} -480 \\ \hline 168 \end{array}$$

$$\begin{array}{r} -336 \\ \hline 144 \end{array}$$

$$\begin{array}{r} -144 \\ \hline 24 \end{array}$$

$$\begin{array}{r} -144 \\ \hline 24 \end{array}$$

$$\begin{array}{r} -144 \\ \hline 0 \end{array}$$

$$24 \overline{) 720} (30$$

$$\begin{array}{r} -720 \\ \hline 0 \end{array}$$

H.C.F = 24

$$(i) \quad 532 \overline{) 693} (1$$

$$\begin{array}{r} -532 \\ \hline 161 \end{array}$$

$$\begin{array}{r} -532 \\ \hline -483 \end{array}$$

$$\begin{array}{r} -483 \\ \hline 49 \end{array}$$

$$\begin{array}{r} -147 \\ \hline 14 \end{array}$$

$$7 \overline{) 1092} (156$$

$$\begin{array}{r} -7 \\ \hline 39 \end{array}$$

$$\begin{array}{r} -35 \\ \hline 42 \end{array}$$

$$\begin{array}{r} -42 \\ \hline 0 \end{array}$$

$$\begin{array}{r} -42 \\ \hline 14 \end{array}$$

$$\begin{array}{r} -14 \\ \hline 0 \end{array}$$

H.C.F = 7

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1. (a)

2	24, 30
2	12, 15
2	6, 15
3	3, 15
5	1, 5
	1, 1

(b)

2	36, 60
2	18, 30
3	9, 15
3	3, 5
5	1, 5
	1, 1

$$\text{L.C.M.} = 2 \times 2 \times 2 \times 3 \times 5$$

$$\text{L.C.M.} = 2 \times 2 \times 3 \times 3 \times 5$$

2	15, 20
2	15, 10
3	15, 5
5	5, 5
	1, 1

$$\text{L.C.M.} = 2 \times 2 \times 3 \times 5$$

2	24, 28, 30
2	12, 14, 15
2	6, 7, 15
3	3, 7, 15
5	1, 7, 5
7	1, 7, 1
	1, 1, 1

$$\text{L.C.M.} = 2 \times 2 \times 2 \times 3 \times 5 \times 7$$

2	42, 63, 21
3	21, 63, 21
3	7, 21, 7
7	7, 7, 7
	1, 1, 1

$$\text{L.C.M.} = 2 \times 3 \times 3 \times 7$$

2	60, 9, 75
2	30, 9, 75
3	15, 9, 75
3	5, 3, 25
5	5, 1, 25
5	1, 1, 5
	1, 1, 1

$$\text{L.C.M.} = 2 \times 2 \times 3 \times 3 \times 5 \times 5$$

2	20, 56
2	10, 28
2	5, 14
5	5, 7
7	1, 7
	1, 1

$$\text{L.C.M.} = 2 \times 2 \times 2 \times 5 \times 7$$

3	51, 85
5	17, 85
17	17, 17
	1, 1

$$\text{L.C.M.} = 3 \times 5 \times 17$$

2	90, 100
3	45, 50
3	15, 50
2	5, 50
5	5, 25
5	1, 5
	1, 1

$$\text{L.C.M.} = 2 \times 3 \times 3 \times 2 \times 5 \times 5$$

2	60, 75, 135
2	30, 75, 135
3	15, 75, 135
3	5, 25, 45
3	5, 25, 15
5	5, 25, 5
5	1, 5, 1
	1, 1, 1

$$\text{L.C.M.} = 2 \times 2 \times 3 \times 3 \times 3 \times 5 \times 5$$

3	27, 9, 36
3	9, 3, 12
2	3, 1, 4
2	3, 1, 2
3	3, 1, 1
	1, 1, 1

$$\text{L.C.M.} = 3 \times 3 \times 2 \times 2 \times 3$$

2	36, 48, 60
2	18, 24, 30
2	9, 12, 15
2	9, 6, 15
3	9, 3, 15
3	3, 1, 5
5	1, 1, 5
	1, 1, 1

$$\text{L.C.M.} = 2 \times 2 \times 2 \times 2 \times 3 \times 3 \times 5$$

2	72, 96, 120
2	36, 48, 60
2	18, 24, 30
2	9, 12, 15
2	9, 6, 15
3	9, 3, 15
3	3, 1, 5
5	1, 1, 5
	1, 1, 1

$$\text{L.C.M.} = 2 \times 2 \times 2 \times 2 \times 2 \times 3 \times 3 \times 5$$

$$\text{Hence, required number} = 1440 + 7 = 1447$$

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2	15, 18, 45
3	15, 9, 45
3	5, 3, 15
5	5, 1, 5
	1, 1, 1

$$\text{Required} = 2 \times 3 \times 3 \times 5 = 90$$

Hence, the three bells toll together after 90 seconds.

5.

2	12, 15, 18, 21
2	6, 15, 9, 21
3	3, 15, 9, 21
3	1, 5, 3, 7
5	1, 5, 1, 7
7	1, 1, 1, 7
	1, 1, 1, 1

$$\text{L.C.M.} = 2 \times 2 \times 3 \times 3 \times 5 \times 7 = 1260$$

Hence, required number = $(1260 - 7) = 1253$

6.

2	18, 24, 30, 36
2	9, 12, 15, 18
2	9, 6, 15, 9
3	9, 3, 15, 9
3	3, 1, 5, 3
5	1, 1, 5, 1
	1, 1, 1, 1

$$\text{L.C.M.} = 2 \times 2 \times 2 \times 3 \times 3 \times 5 = 360$$

Hence, required number = $(360 + 9) = 369$

7.

2	30, 36, 54, 63
2	15, 18, 27, 63
3	15, 9, 27, 63
3	5, 3, 9, 21
3	5, 1, 3, 7
5	5, 1, 1, 7
7	1, 1, 1, 7
	1, 1, 1, 1

$$\text{L.C.M.} = 2 \times 2 \times 3 \times 3 \times 5 \times 7 = 3780$$

Hence, required number = $(3780 + 8) = 3788$

1. Product of two numbers = HCF × LCM

$$896 \times 1024 = \text{H.C.F} \times 7168$$

$$\begin{aligned}\text{H.C.F} &= \frac{896 \times 1024}{7168} \\ &= 128\end{aligned}$$

2. $1566 \times \text{lInd no.} = 58 \times 54810$

$$\begin{aligned}\text{lInd no.} &= \frac{58 \times 54810}{1566} \\ &= 2030\end{aligned}$$

3. $650 \times \text{lInd no.} = 26 \times 16900$

$$\begin{aligned}\text{lInd no.} &= \frac{26 \times 16900}{60} \\ &= 676\end{aligned}$$

4. $15870 = 23 \times \text{L.C.M}$

$$\begin{aligned}\text{L.C.M} &= \frac{15870}{23} \\ &= 690\end{aligned}$$

5. $70 \times \text{lInd no.} = \text{L.C.M} \times \text{H.C.F}$

$$\begin{aligned}\text{lInd no.} &= \frac{210 \times 14}{70} \\ &= 420\end{aligned}$$

- | | | | |
|--------------------|---------|---------|---------|
| 1. (a) Yes | (b) No | (c) No | (d) Yes |
| 2. (a) No | (b) No | (c) No | (d) Yes |
| 3. (a) Yes | (b) Yes | (c) No | (d) Yes |
| 4. (a) Yes | (b) No | (c) Yes | (d) Yes |
| 5. (a) No | (b) Yes | (c) No | (d) Yes |
| 6. (a) Yes | (b) Yes | (c) No | (d) No |
| 7. (a) Yes | (b) No | (c) No | (d) No |
| 8. (a) No | (b) Yes | (c) No | (d) Yes |
| 9. (a) No | (b) Yes | (c) No | (d) Yes |
| 10. (a) No | (b) No | (c) Yes | (d) No |
| 11. (a) Yes | (b) No | (c) Yes | (d) Yes |

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1. (a) $\frac{1}{4}$ (b) $\frac{3}{8}$ (c) $\frac{2}{15}$

2. (a) $\frac{8}{17} + \frac{3}{17} = \frac{11}{17}$

(b) $\frac{1}{21} + \frac{5}{21} + \frac{7}{21} = \frac{13}{21}$

(c) $2\frac{3}{5} + 3\frac{3}{5} = \frac{13}{5} + \frac{18}{5} = \frac{13+18}{5} = \frac{31}{5}$

3. (a) $\frac{4}{5} - \frac{1}{5} = \frac{4-1}{5} = \frac{3}{5}$

(b) $\frac{11}{23} - \frac{6}{23} = \frac{11-6}{23} = \frac{5}{23}$

(c) $7\frac{7}{9} - 1\frac{5}{9} = \frac{70}{9} - \frac{14}{9} = \frac{70-14}{9} = \frac{56}{9}$

4. (a) $\frac{4}{10}, \frac{6}{15}, \frac{8}{20}, \frac{10}{25}$

(b) $\frac{8}{14}, \frac{12}{21}, \frac{16}{28}, \frac{20}{35}$

(c) $\frac{30}{38}, \frac{45}{57}, \frac{60}{76}, \frac{75}{95}$

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5. (a) $\frac{8^{-1}}{56^7} = \frac{1}{7}$ (b) $\frac{65^{13}}{75^{15}} = \frac{13}{15}$ (c) $\frac{51^3}{119^7} = \frac{3}{7}$

6. (a) Proper (b) Mixed (c) Improper

(d) Mixed (e) Improper (f) Proper

7. (a) $3\frac{1}{8}$ (b) $10\frac{1}{3}$ (c) $9\frac{1}{8}$

8. (a) Like fraction (b) Proper fraction

(c) Improper fraction (d) numerator, denominator

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1. (a) $\frac{54 \times 2}{72 \times 2} = \frac{108}{144}$ (b) $\frac{50 \times 2}{60 \times 2} = \frac{100}{120}$

(c) $\frac{45 \times 2}{65 \times 2} = \frac{90}{130}$ (d) $\frac{48 \times 2}{108 \times 2} = \frac{96}{216}$

$$(e) \frac{99 \times 2}{110 \times 2} = \frac{198}{220}$$

$$(f) \frac{189 \times 2}{234 \times 2} = \frac{378}{468}$$

$$3. \text{ (a)} \quad \frac{15}{20} = \frac{15 \div 5}{20 \div 5} = \frac{3}{4}$$

$$(b) \frac{36}{48} = \frac{36 \div 12}{48 \div 12} = \frac{3}{4}$$

$$(c) \frac{63}{72} = \frac{63 \div 9}{72 \div 9} = \frac{7}{8}$$

$$(d) \frac{40}{50} = \frac{40 \div 5}{50 \div 5} = \frac{8}{10}$$

$$(e) \frac{48}{64} = \frac{48 \div 8}{64 \div 8} = \frac{6}{8}$$

$$(f) \frac{108}{120} = \frac{108 \div 12}{120 \div 12} = \frac{9}{10}$$

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1. (a) $\frac{17}{119}$

Divide numerator & denominator by 17

$$\Rightarrow \frac{17 \div 17}{119 \div 17} = \frac{1}{7}$$

$$(b) \frac{105}{75}$$

Divide numerator & denominator by 15

$$\Rightarrow \frac{105 \div 15}{75 \div 15} = \frac{7}{5}$$

(c) $\frac{28}{64}$

Divide numerator & denominator by 4

$$\Rightarrow \frac{28 \div 4}{64 \div 4} = \frac{7}{16}$$

(d) $\frac{12}{38}$

Divide numerator & denominator by 2

$$\Rightarrow \frac{12 \div 2}{38 \div 2} = \frac{6}{19}$$

(e) $\frac{38}{54}$

Divide numerator & denominator by 2

$$\Rightarrow \frac{38 \div 2}{54 \div 2} = \frac{19}{27}$$

(f) $\frac{16}{24}$

Divide numerator & denominator by 8

$$\Rightarrow \frac{16 \div 8}{24 \div 8} = \frac{2}{3}$$

(g) $\frac{128}{256}$

Divide numerator & denominator by 25

$$\Rightarrow \frac{128 \div 128}{256 \div 128} = \frac{1}{2}$$

(h) $\frac{175}{200}$

Divide numerator & denominator by 128

$$\Rightarrow \frac{175 \div 25}{200 \div 25} = \frac{7}{8}$$

2. (a) $\frac{24}{36} = \frac{24 \div 12}{36 \div 12} = \frac{2}{3}$

(b) $\frac{45}{25} = \frac{45 \div 5}{25 \div 5} = \frac{9}{5}$

(c) $\frac{75}{35} = \frac{75 \div 5}{35 \div 5} = \frac{15}{7}$

(d) $\frac{32}{50} = \frac{32 \div 2}{50 \div 2} = \frac{16}{25}$

(e) $\frac{54}{72} = \frac{54 \div 18}{72 \div 18} = \frac{3}{4}$

(f) $\frac{18}{15} = \frac{18 \div 3}{15 \div 3} = \frac{6}{5}$

(g) $\frac{120}{150} = \frac{120 \div 30}{150 \div 30} = \frac{4}{5}$

(f) $\frac{75}{80} = \frac{75 \div 5}{80 \div 5} = \frac{15}{16}$

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1. (a) $\frac{4}{15}, \frac{4}{13}, \frac{4}{11}, \frac{4}{6}$ (b) $\frac{11}{21}, \frac{11}{17}, \frac{11}{15}, \frac{11}{13}$
(c) $\frac{4}{23}, \frac{7}{23}, \frac{10}{23}, \frac{13}{23}, \frac{18}{23}$
2. (a) $\frac{3}{8}, \frac{3}{9}, \frac{3}{11}, \frac{3}{13}$ (b) $\frac{5}{8}, \frac{5}{11}, \frac{5}{13}, \frac{5}{19}$
(c) $\frac{9}{17}, \frac{6}{17}, \frac{5}{17}, \frac{4}{17}, \frac{1}{17}$
3. (a) > (b) >
(c) > (d) >
(e) < (f) >

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1. (a) $\frac{4}{3} + \frac{2}{9} + \frac{1}{6} = \frac{24 + 4 + 3}{18} = \frac{31}{18}$
(b) $\frac{3}{8} + \frac{5}{24} + \frac{9}{16} = \frac{18 + 10 + 27}{48} = \frac{55}{48}$
(c) $\frac{3}{10} + \frac{11}{15} + \frac{8}{50} = \frac{45 + 110 + 24}{150} = \frac{179}{150}$
(d) $\frac{1}{20} + \frac{3}{10} + \frac{2}{15} = \frac{3 + 18 + 8}{60} = \frac{29}{60}$
(e) $\frac{10}{13} + \frac{11}{26} + \frac{8}{39} + \frac{1}{78} = \frac{60 + 33 + 16 + 1}{78} = \frac{110}{78}$
(f) $\frac{1}{6} + \frac{7}{24} + \frac{5}{8} + \frac{9}{16} = \frac{8 + 14 + 30 + 27}{48} = \frac{79}{48}$
2. (a) $2\frac{1}{3} + 3\frac{1}{3} + 5\frac{1}{3} = \frac{7}{3} + \frac{10}{3} + \frac{16}{3} = \frac{7 + 10 + 16}{3} = \frac{33}{3} = 11$
(b) $3\frac{5}{11} + 2\frac{7}{11} + 4\frac{6}{11} = \frac{38}{11} + \frac{29}{11} + \frac{50}{11} = \frac{38 + 29 + 50}{11} = \frac{117}{11}$
(c) $4\frac{3}{4} + 1\frac{1}{18} + 3\frac{1}{12} = \frac{19}{4} + \frac{19}{18} + \frac{37}{12} = \frac{171 + 38 + 111}{36} = \frac{320}{36}$
(d) $3\frac{1}{7} + 4\frac{5}{7} + 6\frac{1}{7} = \frac{22}{7} + \frac{33}{7} + \frac{43}{7} = \frac{22 + 33 + 43}{7} = \frac{98}{7} = 14$
(e) $1\frac{1}{13} + 2\frac{2}{13} + 3\frac{3}{13} = \frac{14}{13} + \frac{28}{13} + \frac{42}{13} = \frac{14 + 28 + 42}{13} = \frac{84}{13}$
(f) $5\frac{11}{24} + 6\frac{5}{24} + \frac{1}{24} = \frac{131}{24} + \frac{149}{24} + \frac{1}{24} = \frac{131 + 149 + 1}{14} = \frac{281}{24}$

3. (a) $\frac{3}{23} + \frac{5}{23} + \frac{7}{23} = \frac{3+5+7}{23} = \frac{15}{23}$
- (b) $\frac{10}{23} + \frac{14}{23} + \frac{7}{23} = \frac{10+14+7}{23} = \frac{31}{23}$
- (c) $\frac{19}{29} + \frac{9}{29} + \frac{1}{29} = \frac{19+9+1}{29} = \frac{29}{29} = 1$
- (d) $\frac{3}{13} + \frac{4}{13} + \frac{8}{13} = \frac{3+4+8}{13} = \frac{15}{13}$
- (e) $\frac{1}{5} + \frac{3}{5} + \frac{4}{5} + \frac{2}{5} = \frac{1+3+4+2}{5} = \frac{10}{5} = 2$
- (f) $\frac{3}{34} + \frac{5}{34} + \frac{7}{34} + \frac{11}{34} = \frac{3+5+7+11}{34} = \frac{26}{34}$

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1. (a) $\frac{11}{15} - \frac{2}{3} = \frac{11-6}{15} = \frac{5}{15} = \frac{1}{3}$
- (b) $\frac{9}{11} - \frac{4}{5} = \frac{45-44}{55} = \frac{1}{55}$
- (c) $\frac{3}{7} - \frac{8}{28} = \frac{12-8}{28} = \frac{4}{28} = \frac{1}{7}$
- (d) $\frac{3}{4} - \frac{7}{16} = \frac{12-7}{15} = \frac{5}{16}$
- (e) $\frac{18}{20} - \frac{4}{15} = \frac{54-16}{60} = \frac{38}{60}$
- (f) $\frac{19}{24} - \frac{3}{8} = \frac{19-9}{24} = \frac{10}{24}$
- (g) $\frac{18}{23} - \frac{12}{23} = \frac{18-12}{23} = \frac{6}{23}$
- (h) $\frac{7}{15} - \frac{4}{15} = \frac{7-4}{15} = \frac{3}{15}$
- (i) $\frac{15}{18} - \frac{4}{6} = \frac{15-12}{18} = \frac{3}{18} = \frac{1}{6}$
- (j) $2\frac{4}{8} - 1\frac{3}{4} = \frac{20}{10} - \frac{7}{4} = \frac{20-14}{8} = \frac{3}{8} = \frac{3}{4}$
- (k) $3\frac{1}{6} - 2\frac{1}{10} = \frac{19}{6} - \frac{21}{10} = \frac{85-63}{30} = \frac{22}{30}$
- (l) $3\frac{1}{4} - 1\frac{2}{3} = \frac{13}{4} - \frac{5}{3} = \frac{39-20}{12} = \frac{19}{12}$

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1. (a) $4 + \frac{5}{16} - \frac{3}{4} = \frac{64 + 5 - 12}{16} = \frac{69 - 12}{16} = \frac{57}{16}$
- (b) $\frac{6}{7} + 4 - 2 \frac{1}{14} = \frac{6}{7} + 4 - \frac{29}{14} = \frac{12 + 56 - 29}{14} = \frac{68 - 29}{14} = \frac{39}{14}$
- (c) $7 \frac{3}{4} - 2 \frac{1}{3} - 1 \frac{2}{5} = \frac{31}{4} - \frac{7}{3} - \frac{7}{5} = \frac{465 - 140 - 84}{60} = \frac{241}{60}$
- (d) $3 \frac{5}{8} + 4 \frac{3}{4} - 1 \frac{1}{5} = \frac{29}{8} + \frac{19}{4} - \frac{36}{5} = \frac{145 + 190 - 288}{40} = \frac{47}{40}$

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1. Cost of notebook = ₹ $2 \frac{7}{8} = \text{₹} \frac{23}{8}$
Cost of pen = ₹ $3 \frac{3}{16} = \text{₹} \frac{51}{16}$
Total money paid = $\frac{23}{8} + \frac{51}{16}$
 $= \frac{46 + 51}{16} = \text{₹} \frac{97}{16}$
2. Total weight carried = $3 \frac{3}{18} + 2 \frac{1}{9} + 7 \frac{1}{10}$
 $= \frac{57}{18} + \frac{19}{9} + \frac{71}{10}$
 $= \frac{285 + 190 + 639}{90} = \frac{1114}{90}$
3. Quantity of milk left = $9 \frac{1}{2} l - 7 \frac{3}{4} l$
 $= \frac{19}{2} l - \frac{31}{4} l$
 $= \frac{38l - 31l}{4} = \frac{7}{4} l$
 $= 1 \frac{3}{4} l$
4. $13 \frac{2}{10} - \left(6 \frac{3}{5} + 5 \frac{4}{10} \right)$
 $= \frac{132}{10} - \left(\frac{33}{5} + \frac{54}{10} \right)$
 $= \frac{132}{10} - \left(\frac{66 + 54}{10} \right)$

$$= \frac{132}{10} - \frac{120}{10}$$

$$= \frac{132 - 120}{10}$$

$$= \frac{12}{10} = 1 \frac{2}{10}$$

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1. (a) $\frac{3}{5} \times \frac{25}{33} = \frac{5}{11}$

(b) $\frac{2}{5} \times \frac{9}{16} = \frac{9}{40}$

(c) $\frac{1}{7} \times \frac{1}{9} = \frac{1}{63}$

(d) $\frac{1}{5} \times \frac{2}{3} = \frac{2}{15}$

(e) $\frac{1}{3} \times \frac{1}{5} = \frac{1}{15}$

(f) $\frac{4}{11} \times 4 \frac{2}{5} = \frac{4}{11} \times \frac{22}{5} = \frac{8}{5} = 1 \frac{3}{5}$

(g) $5 \frac{3}{8} \times \frac{1}{4} = \frac{43}{8} \times \frac{1}{4} = \frac{43}{32} = 1 \frac{11}{32}$

(h) $3 \frac{3}{5} \times \frac{5}{18} = \frac{18}{5} \times \frac{5}{18} = 1$

2. (a) 15

(b) 1

(c) 0

(d) 0

(e) $\frac{11}{14}$

(c) $\frac{1}{4}$

3. (a) $9 \frac{1}{2} \times 4 \frac{4}{5} = \frac{19}{2} \times \frac{24}{5} = \frac{456}{10}$

(b) $1 \frac{2}{3} \times 5 \frac{1}{2} = \frac{18}{5} \times \frac{11}{2} = \frac{99}{5}$

(c) $1 \frac{2}{7} \times 3 \frac{1}{5} = \frac{9}{7} \times \frac{16}{5} = \frac{144}{35}$

(d) $10 \frac{3}{8} \times 3 \frac{1}{9} = \frac{83}{8} \times \frac{28}{9} = \frac{581}{18}$

(e) $\frac{3}{10} \times \frac{5}{7} = 3 \frac{2}{3} = \frac{3}{10} \times \frac{5}{7} \times \frac{11}{3} = \frac{11}{14}$

(f) $\frac{1}{8} \times \frac{1}{6} \times 1 \frac{1}{2} = \frac{1}{8} \times \frac{1}{6} \frac{3}{2} = \frac{1}{32}$

$$(g) \frac{2}{7} \times \frac{8}{4} \times \frac{1}{4} = \frac{4}{63}$$

$$(h) 1 \frac{1}{4} \times \frac{2}{5} \times \frac{4}{5} = \frac{4}{5} \times \frac{2}{5} = \frac{2}{5}$$

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$$4. (a) \frac{2}{7} \times 3 = \frac{6}{7}$$

$$(b) \frac{2}{3} \times 4 = \frac{8}{3}$$

$$(c) 40 \times \frac{3}{4} = 30$$

$$(d) \frac{11}{13} \times 7 = \frac{77}{13}$$

$$(e) \frac{1}{3} \times 4 = \frac{4}{3} = 1 \frac{1}{3}$$

$$(f) 32 \times \frac{5}{8} = 20$$

$$(g) 90 \times \frac{7}{18} = 35$$

$$(h) 50 \times \frac{7}{9} = \frac{350}{9}$$

1. Marks obtained by Anu
= $\frac{1}{3} \times 30$

= **10 marks**

2. Quantity of juice drank
= $\frac{5}{9} \times 9l$
= **5 l**

3. Amount of down payment = ₹ $500000 \times \frac{3}{5}$
= ₹ 300000

4. No. of green marbles = $\frac{5}{8} 72$
= 45 marbles
No. of blue marbles = $\frac{3}{8} \times 72$
= 27 marbles

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1. (a) $\frac{6}{7} \div 3 = \frac{6}{7} \times \frac{1}{3} = \frac{2}{7}$ (b) $\frac{12}{15} \div 4 = \frac{12}{15} \times \frac{1}{4} = \frac{1}{15}$

(c) $\frac{21}{25} \div 7 = \frac{21}{25} \times \frac{1}{7} = \frac{3}{25}$ (d) $\frac{12}{23} \div 6 = \frac{12}{23} \times \frac{1}{6} = \frac{2}{23}$

2. (a) 3 (b) $\frac{5}{2}$
(c) $\frac{13}{9}$ (d) $\frac{2}{4}$

$$(e) 3 \frac{4}{5} = \frac{19}{5} \Rightarrow \text{Reciprocal} = \frac{5}{19}$$

$$(f) 8 \frac{1}{2} = \frac{17}{5} \Rightarrow \text{Reciprocal} = \frac{2}{17}$$

$$(g) 1 \frac{3}{4} = \frac{7}{4} \Rightarrow \text{Reciprocal} = \frac{4}{7}$$

$$(h) 5 \frac{7}{9} = \frac{52}{9} \Rightarrow \text{Reciprocal} = \frac{9}{52}$$

3. (a) $21 \div \frac{7}{4} = 21 \times \frac{4}{7} = 12$

$$(b) 2 \frac{4}{5} \div \frac{7}{2} = \frac{14}{5} \times \frac{2}{7} = \frac{4}{5}$$

$$(c) 7 \frac{1}{5} \div \frac{3}{5} = \frac{36}{5} \times \frac{5}{3} = 12$$

$$(d) 4 \frac{4}{5} \div 6 = \frac{24}{5} \times \frac{1}{6} = \frac{4}{5}$$

$$(e) 5 \frac{1}{3} \div 4 = \frac{16}{3} \times \frac{1}{4} = \frac{4}{3} = 1 \frac{1}{3}$$

$$(f) 3 \frac{3}{4} \div \frac{5}{2} = \frac{15}{4} \times \frac{2}{5} = \frac{3}{2} = 1 \frac{1}{2}$$

$$(g) 7 \frac{6}{7} \div \frac{11}{14} = \frac{55}{7} \times \frac{14}{11} = 10$$

$$(h) 3 \frac{3}{8} \div 18 = \frac{27}{8} \times \frac{1}{18} = \frac{3}{16}$$

4. (a) $\frac{6}{7}$ (b) 0
(c) 1 (d) 1

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1. Let the number be x

$$x \times \frac{4}{7} = 2 \frac{3}{8}$$

$$x \times \frac{4}{7} = \frac{19}{8}$$

$$x = \frac{19}{8} = \frac{7}{4}$$

$$= \frac{133}{8} = 4 \frac{5}{32}$$

Hence, the required number is $4 \frac{5}{32}$.

$$2. \quad 15\frac{1}{3} \div \frac{2}{3}$$

$$= \frac{46}{3} \times \frac{3}{2} = 23$$

$$\begin{aligned}
 3. \text{ No. of pieces} &= 5 \frac{3}{9} \text{ m} \div 1 \frac{1}{3} \\
 &= \frac{48}{9} \div \frac{4}{3} \\
 &= \frac{48}{9} \times \frac{3}{4} = 4
 \end{aligned}$$

$$\begin{aligned}
 4. \text{ Fraction of chocolate each child gets} &= \frac{10}{13} \div 5 \\
 &= \frac{10}{13} \times \frac{1}{5} \\
 &= \frac{2}{13}
 \end{aligned}$$

Model Test Paper - 1

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4. (a)

	3	0	5	2	6
	1	5	0	4	4
+ 3	6	7	4	3	
	8	2	3	1	3

$$\begin{array}{r}
 (b) \quad 3\ 7\ 7\ 7\ 2 \\
 \quad \quad 1\ 6\ 6\ 4 \\
 + \quad 4\ 5\ 8 \\
 \hline
 3\ 9\ 8\ 9\ 4
 \end{array}$$

$$\begin{array}{r}
 52832 \\
 35237 \\
 + 1174 \\
 \hline
 89243
 \end{array}$$

5. (a)

6	5	7	8	8
-	4	4	9	6
2 0 8 2 5				

$$\begin{array}{r} \text{(b)} \\ \boxed{\begin{array}{r} 95406 \\ -26915 \\ \hline 68491 \end{array}} \end{array}$$

$$\begin{array}{r} 67008 \\ -21363 \\ \hline 45645 \end{array}$$

6. (a)

3	8	4	8	7	8	0	
-	2	4	2	3	3	5	0
1	4	2	5	4	3	0	

$$\begin{array}{r}
 (b) \quad \boxed{\begin{array}{r} 6270458 \\ -5525250 \\ \hline 745208 \end{array}}
 \end{array}$$

$$\begin{array}{r}
 (c) \quad \boxed{\begin{array}{r} 2637175 \\ -15000 \\ \hline 2622175 \end{array}}
 \end{array}$$

$$\begin{array}{r} \text{(d)} \\ \boxed{\begin{array}{r} 4926170 \\ -3617285 \\ \hline 1308885 \end{array}} \end{array}$$

$$\begin{array}{r} \boxed{e) \quad 7 \ 7 \ 6 \ 0 \ 4 \ 7 \ 1 \ 5} \\ - 4 \ 2 \ 2 \ 7 \ 2 \ 4 \ 0 \ 0 \\ \hline \boxed{3 \ 5 \ 3 \ 3 \ 2 \ 3 \ 1 \ 5} \end{array}$$

$$\begin{array}{r}
 (f) \quad 5\ 2\ 4\ 7\ 6\ 1\ 7\ 5 \\
 - 2\ 6\ 2\ 1\ 7\ 1\ 4\ 4 \\
 \hline
 2\ 6\ 2\ 5\ 9\ 0\ 3\ 1
 \end{array}$$

$$(g) \quad \begin{array}{r} 26044550 \\ -3617390 \\ \hline 22427260 \end{array}$$

$$(h) \quad \begin{array}{r} 87582055 \\ -31756440 \\ \hline 55825615 \end{array}$$

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14.(a) $\frac{17}{119}$

Divide numerator & denominator by 17

$$\Rightarrow \frac{17 \div 17}{119 \div 17} = \frac{1}{7}$$

(b) $\frac{105}{75}$

Divide numerator & denominator by 15

$$\Rightarrow \frac{105 \div 15}{75 \div 15} = \frac{7}{5}$$

(c) $\frac{28}{64}$

Divide numerator & denominator by 4

$$\Rightarrow \frac{28 \div 4}{64 \div 4} = \frac{7}{16}$$

(d) $\frac{12}{38}$

Divide numerator & denominator by 2

$$\Rightarrow \frac{12 \div 2}{38 \div 2} = \frac{6}{19}$$

(e) $\frac{38}{54}$

Divide numerator & denominator by 2

$$\Rightarrow \frac{38 \div 2}{54 \div 2} = \frac{19}{27}$$

(f) $\frac{16}{24}$

Divide numerator & denominator by 8

$$\Rightarrow \frac{16 \div 8}{24 \div 8} = \frac{2}{3}$$

(g) $\frac{128}{256}$

Divide numerator & denominator by 25

$$\Rightarrow \frac{128 \div 128}{256 \div 128} = \frac{1}{2}$$

(h) $\frac{175}{200}$

Divide numerator & denominator by 128

$$\Rightarrow \frac{175 \div 25}{200 \div 25} = \frac{7}{8}$$

15.(a) $\frac{3}{5} \times \frac{25}{33} = \frac{5}{11}$

(b) $\frac{2}{5} \times \frac{9}{16} = \frac{9}{40}$

(c) $\frac{1}{7} \times \frac{1}{9} = \frac{1}{63}$

(d) $\frac{1}{5} \times \frac{2}{3} = \frac{2}{15}$

(e) $\frac{1}{3} \times \frac{1}{5} = \frac{1}{15}$

(f) $\frac{4}{11} \times 4\frac{2}{5} = \frac{4}{11} \times \frac{22}{5} = \frac{8}{5} = 1\frac{3}{5}$

(g) $5\frac{3}{8} \times \frac{1}{4} = \frac{43}{8} \times \frac{1}{4} = \frac{43}{32} = 1\frac{11}{32}$

(h) $3\frac{3}{5} \times \frac{5}{18} = \frac{18}{5} \times \frac{5}{18} = 1$

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1. (a) tens ; 70

(b) tenths ; $\frac{8}{10}$

(c) thousandths ; $\frac{3}{1000}$

(d) hundredths ; $\frac{2}{100}$

2. $20 + 8 + \frac{3}{10} + \frac{2}{100} + \frac{3}{4000}$

3. (a) Yes

(b) Yes

(c) No

(d) Yes

4. (a) <

(b) >

(c) >

(d) <

5. (a) $1\frac{1}{10} = \frac{11}{10} = 1.1$

(b) $\frac{24}{100} = 0.24$

(c) $\frac{7}{10} = 0.7$

(d) $1\frac{2}{10} = \frac{12}{10} = 1.2$

(e) $\frac{229}{1000} = 0.229$

(d) $\frac{6}{10} = 0.6$

- 6.** (a) Two point four five
(b) Five point zero nine
(c) Twenty one point three five
(d) Three hundred fifteen point four six
(e) Seven point three four five
(f) Five point zero one five
- 7.** (a) 40.356 (b) 13.67 (c) 74.813
- 8.** (a) 3.79 (b) 0.993 (c) 1.9 (d) 19.92
- 9.** (a) 90.78 (b) 18.75 (c) 195 (d) 1402.5
- 10.** (a) 0.417 (b) 3.125 (c) 1.44 (d) 5.26

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11. $50 + 1 + \frac{4}{10} + \frac{5}{100} + \frac{6}{1000}$

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- 1.** (a) $20 + 5 + 0.2 + 0.03$
 $20 + 5 + \frac{2}{10} + \frac{3}{100}$
(b) $100 + 60 + 5 + 0.3 + 0.01 + 0.003$
 $100 + 60 + 5 + \frac{3}{10} + \frac{1}{100} + \frac{3}{1000}$
(c) $20 + 6 + 0.4 + 0.05$
 $20 + 6 + \frac{4}{10} + \frac{5}{100}$
(d) $1000 + 200 + 30 + 4 + 0.04 + 0.001$
 $1000 + 200 + 30 + 4 + \frac{4}{100} + \frac{1}{1000}$
- 2.** (a) Twenty four point six two
(b) Thirty six point three seven five
(c) Fifty four point six zero three
(d) One hundred twenty five point zero zero seven

3. (a) 54.73 (b) 860.27 (c) 2348.49 (d) 24.063

4. (a) 33.73 (b) 21.2 (c) 442.97

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- 1.** (a) 5.600, 3.420, 9.750, 18.100
(b) 36.160, 37.500, 84.900, 36.123
(c) 8.465, 8.320, 7.100, 10.010
(d) 12.500, 1.730, 8.246, 17.972
(e) 85.10, 36.42, 80.30, 179.80
(f) 12.340, 119.379, 4.800, 1.200

2. (a) like (b) unlike (c) like (d) unlike

3. (a) $7.40 = 7.400$ (b) $8.30 = 8.300$
(c) 9.600 (d) $28.6 = 28.60$
(e) 15.6 (f) 19.70

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- 1.** (a) 86.32, 95.632, 97.4, 98.09
(b) 165.3, 180.03, 185.92, 187.935
(c) 30.4, 35.04, 35.78, 36.629
(d) 61.006, 61.61, 75.06, 86.16

2. (a) 48.913, 45.62, 42.3, 41.756
(b) 158.208, 158.032, 150.4, 150.004
(c) 97.63, 97.06, 96.36, 96.03
(d) 236.414, 236.114, 233.410, 233.141

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- 3.** (a) $>$ (b) $<$
(c) $=$ (d) $<$
(e) $>$ (d) $=$

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- 1.** (a) $\frac{25}{100}$ (b) $\frac{53}{10}$ (c) $\frac{8839}{1000}$ (d) $\frac{2384}{100}$
(e) $\frac{4318}{100}$ (f) $\frac{62143}{1000}$ (g) $\frac{146}{10}$ (h) $\frac{7315}{100}$

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2. (a) 0.34 (b) 0.07 (c) 0.011 (d) 1.3
(e) 1.29 (f) 0.049 (g) 5.14 (h) 0.028
1. (a) 61.063 (b) 69.531 (c) 74.122 (d) 32.633
(e) 72.657 (f) 59.046
2. (a) 26.403 (b) 57.78 (c) 61.49 (d) 50.216
(e) 231.12 (f) 213.77

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3. (a) 7.528 (b) 40.542
(c) 790.312 (d) 625.728
(e) 261.55 (f) 11.9715
4. Let the number be x

$$500x = 32.46$$

$$x = 50 - 31.46$$

$$x = 17.54$$

Hence, the required number is 17.54.

5. $43.57 + 54.055 = 67.625$

6. Let the number be x

$$36.50 = x = 65$$

$$x = 65 - 36.50$$

$$x = 28.5$$

Hence, the required number is 28.5.

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1. (a) 510 (b) 8400 (c) 91.43 (d) 43
(e) 1862 (f) 582 (g) 84300 (h) 2513
(i) 26240

- 2.** (a) 557.76 (b) 867.5 (c) 1113.9 (d) 58.8
 (e) 162 (f) 295.584 (g) 472.5 (h) 1375
 (i) 2064.76
- 3.** (a) 138.672 (b) 42.48 (c) 218.92 (d) 115.92
 (e) 234.976 (f) 54.593 (g) 288.558 (h) 47.022
 (i) 3687.36
- 4.** (a) 19.4502 (b) 20.088 (c) 6.192 (d) 10.8942
 (e) 81.536 (f) 4493.84

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- 1.** (a) 1.25 (b) 7.5 (c) 14.97 (d) 173.3
 (e) 62.13 (f) 0.345
- 2.** (a) 54.2 (b) 0.89 (c) 0.41 (d) 0.68
 (e) 0.67 (f) 2.345
- 3.** (a) 5.24 (b) 38.6 (c) 49.545 (d) 0.14112
 (e) 0.68 (f) 2.9
- 4.** (a) 0.53 (b) 0.846 (c) 0.743 (d) 0.2693

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- 5.** (a) 0.34 (b) 0.043 (c) 0.2743 (d) 0.5132
 (e) 61.349 (f) 0.07431

6. Cost of 1 pen $= ₹ 736.32 \div 25$
 $= ₹ 29.4528$

7. Distance covered in 5 hours =
 $= 1297.36 \div 896.93 \text{ km}$
 $= 400.43 \text{ km}$

8. Cost of 1 pen $= ₹ 13.65$
 Cost of 12 pens $= ₹ 13.65 \times 12$
 $= ₹ 163.80$

9. Quantity of milk in 1 bottle $= 26.5 \text{ l} \div 14$
 $= 1.9 \text{ l}$

10. Total no. of km $= 25.35 \text{ km} + 26.46 \text{ km} + 23.31 \text{ km}$
 $= 75.12 \text{ km}$

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- 1.** (a) 80 paise
(b) ₹ 7.50 = (7.50×100) paise = 750 paise
(c) ₹ 5.50 = (5.50×100) paise = 550 paise
(d) ₹ 0.70 = (0.70×100) paise = 70 paise
(e) ₹ 0.69 = (0.69×100) paise = 69 paise
(f) ₹ 0.45 = (0.45×100) paise = 45 paise
(g) ₹ 0.35 = (0.35×100) paise = 35 paise
(h) ₹ 4.80 = (4.80×100) paise = 480 paise

2. (a) 24 paise = ₹ 0.24
(b) 135 paise = $(135 \text{ paise} \div 100)$ = ₹ 1.35
(c) 28 paise = ₹ 0.28
(d) 1275 paise = ₹ 12.75
(e) 34517 paise = ₹ 345.17
(f) 390 paise = ₹ 3.90
(g) 55 paise = ₹ 0.55
(h) 60 paise = ₹ 0.60

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3. $\text{₹ } 1000 - \text{₹ } 589.55 = \text{₹ } 410.45$
4. $\text{₹ } 36.35 + \text{₹ } 235.85 = \text{₹ } 271.20$
5. $\text{₹ } 246.67 + \text{₹ } 547.20 = \text{₹ } 703.87$
6. $\text{₹ } 710.30 + \text{₹ } 310.50 = \text{₹ } 399.80$
1. Money left = $\text{₹ } 800 - \text{₹ } 625.75 = \text{₹ } 174.25$
2. Money returned = $\text{₹ } 500 - \text{₹ } 312.75 = \text{₹ } 187.25$
3. Money spent = $\text{₹ } 30.70 + \text{₹ } 45.20 + \text{₹ } 50.50 = \text{₹ } 126.40$
4. Money left = $\text{₹ } 500 - (\text{₹ } 220.50 + \text{₹ } 135.50) = \text{₹ } 500 - \text{₹ } 356$
 $= \text{₹ } 144$

5. Money spent = $\text{₹ } 307.50 + \text{₹ } 127.50 = \text{₹ } 435$
6. Total money spent = $\text{₹ } 3175.75 + \text{₹ } 763.50$
 $= \text{₹ } 3939.25$

1. (a) $\text{₹ } 1382$
(d) $\text{₹ } 1521.70$
(c) $\text{₹ } 1826$
2. (a) $\text{₹ } 94.22$
(d) $\text{₹ } 4315.60$
(c) $\text{₹ } 718.561$

1. Cost of 1 notebook = $\text{₹ } 1085.20 \div 9$
 $= \text{₹ } 120.58$
2. Cost of 8 silver cups = $\text{₹ } 1526.35 \times 8$
 $= \text{₹ } 12210.8$
3. Do it yourself.
4. Cost of 8 packets = $\text{₹ } 26.50 \times 8$
 $= \text{₹ } 212$

1. (a) $45 = 45 \times 100\% = 4500\%$
(b) $\frac{22}{10} = \frac{22}{10} \times 100\% = 220\%$
(c) $\frac{1}{7} = \frac{1}{7} \times 100\% = 14.28\%$
(d) $3 \frac{1}{11} = \frac{34}{11} \times 100\% = 309.09\%$
(e) $1 \frac{2}{5} = \frac{7}{5} \times 100\% = 140\%$

2. (a) $0.6 = \frac{0.6}{10} \times 100\% = 60\%$
(b) $0.3 = \frac{0.3}{10} \times 100\% = 30\%$
(c) $0.43 = \frac{0.43}{100} \times 100\% = 43\%$
(d) $0.55 = \frac{0.55}{100} \times 100\% = 55\%$
(e) $0.08 = \frac{0.08}{100} \times 100\% = 8\%$
3. (a) $\frac{3 \times 20}{5 \times 20} = \frac{60}{100} = 60\%$
(b) $\frac{11 \times 2}{50 \times 2} = \frac{22}{100} = 22\%$
(c) $\frac{15 \times 4}{25 \times 4} = \frac{60}{100} = 60\%$
(d) $\frac{27 \times 5}{20 \times 5} = \frac{135}{100} = 135\%$
(e) $3 \frac{1}{4} = \frac{13 \times 25}{4 \times 25} = \frac{325}{100} = 325\%$

- (a) 10% (b) 75%
(c) 20% (d) 50%
(e) 75% (f) 22.5%
Maths Wizard-5

1. (a) $\frac{12}{24} \times 100 = 50\%$ (b) $\frac{72}{100} \times 100 = 72\%$

2. (a) 25% of ₹ 4500 $= \frac{25}{100} \times ₹ 4500$
 $= ₹ 1125$

(b) 50% of ₹ 2700 $= \frac{50}{100} \times ₹ 2700$
 $= ₹ 1350$

(c) $4 \frac{1}{2}\%$ of 4800 l
 $= \frac{9}{2} \times 100 \times 4800$
 $= 216\text{ l}$

(d) 60% of 120 days
 $= \frac{60}{100} \times 120\text{ days} = 72\text{ days}$
 $= 216\text{ l}$

3. No. of girls $= 60 \times \frac{20}{100} = 12$

No. of boys $= 60 - 12 = 48$

4. % of students passed $= \frac{104}{160} \times 100$
 $= 65\%$

% of students failed $= \frac{(160 - 104)}{160} \times 100$
 $= \frac{56}{160} \times 100$
 $= 35\%$

5. % of marks she get $= \frac{210}{300} \times 100$
 $= 70\%$

6. Marks obtained by Ashu $= \frac{25}{300} \times 80$
 $= 20$

$$1. \text{ S.I} = \frac{\text{₹ } 5000 \times 6 \times 3}{100}$$

$$= \text{₹ } 900$$

$$\text{Amount} = P + S.I = \text{₹ } 5000 + \text{₹ } 900$$

$$= \text{₹ } 5900$$

$$2. \text{ S.I} = \frac{\text{₹ } 8000 \times 4 \times 5}{3 \times 100}$$

$$= \text{₹ } 533.33$$

$$\text{Amount} = P + S.I = \text{₹ } 8000 + \text{₹ } 533.33$$

$$= \text{₹ } 8533.33$$

$$3. \text{ S.I} = \frac{\text{₹ } 3150 \times 12 \times 10}{100 \times 3}$$

$$= \text{₹ } 12.60$$

$$\text{Amount} = P + S.I$$

$$= \text{₹ } 3150 + \text{₹ } 1260$$

$$= \text{₹ } 4410$$

$$4. \text{ S.I} = \frac{\text{₹ } 8000 \times 25 \times 5}{2 \times 100 \times 4}$$

$$= \text{₹ } 1250$$

$$\text{Amount} = P + S.I$$

$$= \text{₹ } 8000 + \text{₹ } 1250$$

$$= \text{₹ } 9250$$

$$1. \text{ (a) S.I} = \frac{P \times R \times T}{100}$$

$$\text{₹ } 126 = \frac{\text{₹ } 300 \times 7 \times T}{100}$$

$$T = \frac{126}{3 \times 7}$$

$$T = 6 \text{ Years}$$

$$\text{(b) S.I} = \frac{P \times R \times T}{100}$$

$$\text{₹ } 1200 = \frac{\text{₹ } 8000 \times 6 \times T}{100}$$

$$T = \frac{1200 \times 100}{8000 \times 6}$$

$$T = \frac{10}{4}$$

$$= 2.5 \text{ years}$$

$$2. (a) S.I = \frac{P \times R \times T}{100}$$

$$144 = \frac{P \times 5 \times 3}{100}$$

$$P = \frac{144 \times 100}{5 \times 3}$$

$$P = ₹ 960$$

$$(b) 1038 = \frac{P \times 15 \times 5}{100 \times 2}$$

$$144 = \frac{1038 \times 100 \times 3}{15 \times 5}$$

$$P = ₹ 2768$$

$$3. S.I = \text{Amount} - \text{Principal}$$

$$= ₹ 8520 - ₹ 6000$$

$$= ₹ 2520$$

$$S.I = \frac{P \times R \times T}{100}$$

$$2520 = \frac{6000 \times R \times 3}{100}$$

$$R = \frac{2520}{60 \times 3}$$

$$R = 14 \%$$

4. Let the principal be x

$$(6250 - x) = \frac{x \times 10 \times 2}{100}$$

$$625000 - 100x = 20x$$

$$625000 = 20x + 100x$$

$$625000 = 120x$$

$$x = \frac{625000}{120}$$

$$x = ₹ 5208$$

- 1.** (a) $S.P = C.P + \text{Profit}$
 $= ₹ 1800 + ₹ 200 = ₹ 2000$
- (b) $S.P = C.P + \text{Profit}$
 $= ₹ 1272.65 + ₹ 72.65$
 $= ₹ 1345.30$
- (c) $S.P = ₹ 1088 + ₹ 105.79$
 $= ₹ 1193.79$
- (d) $S.P = ₹ 801.26 + ₹ 16.25$
 $= ₹ 817.51$
- 2.** (a) $\text{Profit} = S.P - C.P$
 $= ₹ 940 - ₹ 600 = ₹ 340$
- (b) $\text{Loss} = C.P - S.P$
 $= ₹ 1750 - ₹ 1484 = ₹ 266$
- (c) $\text{Loss} = C.P - S.P$
 $= ₹ 645.30 - ₹ 530.60 = ₹ 114.70$
- (d) $\text{Profit} = S.P - C.P$
 $= ₹ 72.65 - ₹ 68.72 = ₹ 3.93$
- 3.** (a) $C.P = S.P - \text{Profit}$
 $= ₹ 150 - ₹ 25 = ₹ 125$
- (b) $C.P = S.P + \text{Loss}$
 $= ₹ 56 - ₹ 8.09 = ₹ 64.09$
- (c) $C.P = S.P - \text{Profit}$
 $= ₹ 80.72 - ₹ 2.68 = ₹ 78.04$
- (d) $C.P = S.P - \text{Profit}$
 $= ₹ 1200 - ₹ 95.70 = ₹ 1104.3$

4. (a) C.P = S.P + Loss
= ₹ 10250 + ₹ 1350 = ₹ 11600

5. C.P = ₹ 120
S.P = $20 \times ₹ 8 = ₹ 160$
Profit = S.P – C.P
= ₹ 160 – ₹ 120
= ₹ 40

6. C.P = ₹ 13
S.P = ₹ 12 – ₹ 1 = ₹ 12
Loss = C.P – S.P
= ₹ 13 – ₹ 12
= ₹ 1

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MODEL TEST PAPER-II

- 1.** (a) 33.73 (b) 21.2 (c) 442.97
- 2.** (a) 5.600, 3.420, 9.750, 18.100
(b) 36.160, 37.500, 84.900, 36.123
(c) 8.465, 8.320, 7.100, 10.010
(d) 12.500, 1.730, 8.246, 17.972
(e) 85.10, 36.42, 80.30, 179.80
(f) 12.340, 119.379, 4.800, 1.200
- 3.** (a) 5.600, 3.420, 9.750, 18.100
(b) 36.160, 37.500, 84.900, 36.123
(c) 8.465, 8.320, 7.100, 10.010
(d) 12.500, 1.730, 8.246, 17.972
(e) 85.10, 36.42, 80.30, 179.80
(f) 12.340, 119.379, 4.800, 1.200

- 4.** (a) $\frac{25}{100}$ (b) $\frac{53}{10}$ (c) $\frac{8839}{1000}$ (d) $\frac{2384}{100}$
 (e) $\frac{4318}{100}$ (f) $\frac{62143}{1000}$ (g) $\frac{146}{10}$ (h) $\frac{7315}{100}$
- 5.** (a) 7.528 (b) 40.542 (c) 790.312 (d) 625.728
 (e) 261.55 (f) 11.9715
- 6.** (a) 557.76 (b) 867.5 (c) 1113.9 (d) 58.8
 (e) 162 (f) 295.584 (g) 472.5 (h) 1375
 (i) 2064.76
- 7.** (a) 80 paise
 (b) ₹ 7.50 = (7.50×100) paise = 750 paise
 (c) ₹ 5.50 = (5.50×100) paise = 550 paise
 (d) ₹ 0.70 = (0.70×100) paise = 70 paise
 (e) ₹ 0.69 = (0.69×100) paise = 69 paise
 (f) ₹ 0.45 = (0.45×100) paise = 45 paise
 (g) ₹ 0.35 = (0.35×100) paise = 35 paise
 (h) ₹ 4.80 = (4.80×100) paise = 480 paise
- 8.** (a) ₹ 85.22 (b) ₹ 65.70
 (c) ₹ 109.80 (d) ₹ 184.64

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- 9.** Cost of 1 pen = ₹ 13.65
 Cost of 12 pens = ₹ 13.65×12
 = ₹ 163.80
- 10.** Cost of 8 packets = ₹ 26.50×8
 = ₹ 212
- 11.** (a) $45 = 45 \times 100\% = 4500\%$
 (b) $\frac{22}{10} = \frac{22}{10} \times 100\% = 220\%$
 (c) $\frac{1}{7} = \frac{1}{7} \times 100\% = 14.28\%$
 (d) $3 \frac{1}{11} = \frac{34}{11} \times 100\% = 309.09\%$
 (e) $1 \frac{2}{5} = \frac{7}{5} \times 100\% = 140\%$

12. (a) $\frac{3 \times 20}{5 \times 20} = \frac{60}{100} = 60\%$

(b) $\frac{11 \times 2}{50 \times 2} = \frac{22}{100} = 22\%$

(c) $\frac{15 \times 4}{25 \times 4} = \frac{60}{100} = 60\%$

(d) $\frac{27 \times 5}{20 \times 5} = \frac{135}{100} = 135\%$

(e) $3 \frac{1}{4} = \frac{13 \times 25}{4 \times 25} = \frac{325}{100} = 325\%$

13. (a) 10% (b) 75%

(c) 20% (d) 50%

(e) 75% (f) 22.5%

14. (a) S.I $= \frac{\text{₹ } 5000 \times 6 \times 3}{100}$

$= \text{₹ } 900$

Amount $= P + S.I = \text{₹ } 5000 + \text{₹ } 900$
 $= \text{₹ } 5900$

(b) S.I $= \frac{\text{₹ } 8000 \times 4 \times 5}{3 \times 100}$
 $= \text{₹ } 533.33$

Amount $= P + S.I = \text{₹ } 8000 + \text{₹ } 533.33$
 $= \text{₹ } 8533.33$

(c) S.I $= \frac{\text{₹ } 3150 \times 12 \times 10}{100 \times 3}$
 $= \text{₹ } 12.60$

Amount $= P + S.I$
 $= \text{₹ } 3150 + \text{₹ } 1260$
 $= \text{₹ } 4410$

(d) S.I $= \frac{\text{₹ } 8000 \times 25 \times 5}{2 \times 100 \times 4}$
 $= \text{₹ } 1250$

Amount $= P + S.I$
 $= \text{₹ } 8000 + \text{₹ } 1250$
 $= \text{₹ } 9250$

15.(a) Time = 6 years

(b) Time = 2.5 years

16.(a) Profit = S.P – C.P

$$= ₹ 940 - ₹ 600 = ₹ 340$$

(b) Loss = C.P – S.P

$$= ₹ 1750 - ₹ 1484 = ₹ 266$$

(c) Loss = C.P – S.P

$$= ₹ 645.30 - ₹ 530.60 = ₹ 114.70$$

(d) Profit = S.P – C.P

$$= ₹ 72.65 - ₹ 68.72 = ₹ 3.93$$

17. C.P = ₹ 120

$$S.P = 20 \times ₹ 8 = ₹ 160$$

$$\text{Profit} = S.P - C.P$$

$$= ₹ 160 - ₹ 120$$

$$= ₹ 40$$

18. C.P = ₹ 13

$$S.P = ₹ 12 - ₹ 1 = ₹ 12$$

$$\text{Loss} = C.P - S.P$$

$$= ₹ 13 - ₹ 12$$

$$= ₹ 1$$

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1. (a) 1 : 2

(b) 3 : 25

(c) 7 : 19

(d) $2 \frac{4}{9} = \frac{22}{9} = 22 : 9$

2. (a) $\frac{3}{5}$

(b) $\frac{4}{11}$

(c) $\frac{7}{17}$

(d) $\frac{15}{19}$

$$(e) \frac{20}{67}$$

$$(f) \frac{45}{49}$$

3. (a) $\frac{12}{13}$ and $\frac{24}{39}$

$$\frac{12}{13} = \frac{12 \times 3}{13 \times 3} = \frac{36}{39}$$

$$\frac{36}{39} > \frac{24}{39}$$

$$\text{So, } \frac{12}{13} > \frac{24}{39}$$

Hence, $12 : 13 > 24 : 39$

(b) $\frac{4}{7}$ and $\frac{7}{4}$

$$\frac{4}{7} = \frac{4 \times 4}{7 \times 4} = \frac{16}{28}$$

$$\frac{7}{4} = \frac{7 \times 7}{4 \times 7} = \frac{49}{28}$$

$$\frac{16}{28} < \frac{49}{28}$$

$$\text{So, } \frac{4}{7} < \frac{7}{4}$$

Hence, $4 : 7 < 7 : 4$

(c) $\frac{2}{5}$ and $\frac{1}{5}$

$$\frac{2}{5} > \frac{1}{5}$$

Hence, $2 : 5 > 1 : 5$

4. (a) $\frac{24}{36}^2 = \frac{2}{3}$

(b) $\frac{72}{88}^9 = \frac{9}{11}$

(c) $\frac{65}{52} = \frac{5}{4}$

(d) $\frac{68}{102} = \frac{2}{3}$

(e) $\frac{375}{425} = \frac{15}{17}$

(f) $\frac{800}{1200} = \frac{2}{3}$

(a) $3 : 9 :: x : 12$

$$\frac{3}{9} = \frac{x}{12}$$

$$3 \times 12 = x \times 9$$

$$36 = 9x$$

$$x = \frac{36}{9}$$

$$x = 4$$

(b) $3 : 5 :: 48 : x$

$$\frac{3}{5} = \frac{48}{x}$$

$$3x = 48 \times 5$$

$$x = \frac{48 \times 5}{3} = 80$$

(c) $15 : x :: 5 : 8$

$$\frac{15}{x} = \frac{5}{8}$$

$$5x = 120$$

$$x = \frac{120}{5} = 24$$

(d) $5 : 2 :: x : 14$

$$\frac{5}{2} = \frac{x}{14}$$

$$2x = 5 \times 14$$

$$x = \frac{5 \times 14}{2} = 35$$

(e) $x : 10 :: 63 : 90$

$$\frac{x}{10} = \frac{63}{90}$$

$$90x = 63 \times 10$$

$$x = \frac{63 \times 10}{90} = 7$$

(f) $x : 9 :: 40 : 5$

$$\frac{x}{9} = \frac{40}{5}$$

$$5x = 40 \times 9$$

$$x = \frac{40 \times 9}{5} = 72$$

(g) $7 : x :: 14 : 10$

$$\frac{7}{x} = \frac{14}{10}$$

$$14x = 7 \times 10$$

$$x = \frac{7 \times 10}{14}$$

$$x = 5$$

(h) $56 : 49 :: 63 : x$

$$\frac{56}{49} = \frac{63}{x}$$

$$56x = 63 \times 49$$

$$x = \frac{63 \times 49}{56}$$

$$x = \frac{441}{8}$$

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1. (a) Distance = Speed \times Time

$$= 70 \times 4.5$$

$$= 315 \text{ km}$$

(b) Distance = Speed \times Time

$$= 55 \times 6$$

$$= 330 \text{ km}$$

2. (a) Speed = $\frac{d}{t} = \frac{800}{5} = 160 \text{ km/hr}$

(b) Speed = $\frac{d}{t} = \frac{7}{2} = 3.5 \text{ km/hr}$

(c) Speed = $\frac{d}{t} = \frac{208}{4} = 52 \text{ km/hr}$

(d) Speed = $\frac{d}{t} = \frac{93}{3} = 31 \text{ km/hr}$

3. Time = $\frac{\text{Distance}}{\text{Speed}}$

$$= \frac{750}{25} = 30 \text{ hours}$$

4. Time = Speed \times time

$$= 1550 \times 2 = 3100 \text{ km}$$

5. Speed = $\frac{d}{t} = \frac{343}{7} = 49 \text{ km/hr}$

1. (a) $\frac{5.05}{100} \times \frac{5}{18} = 1.403 \text{ m/sec}$

(b) $72 \times \frac{5}{18} = 20 \text{ m/sec}$

(c) $108 \times \frac{5}{18} = 30 \text{ m/sec}$

(d) $118 \times \frac{5}{18} = 32.77 \text{ m/sec}$

2. (a) $20 \text{ m/sec} \times \frac{18}{5} = 72 \text{ km/hr}$

(b) $40 \text{ m/sec} \times \frac{18}{5} = 144 \text{ km/hr}$

(c) $12.5 \text{ m/sec} \times \frac{18}{5} = 45 \text{ km/hr}$

(d) $45 \text{ m/sec} \times \frac{18}{5} = 162 \text{ km/hr}$

3. Speed in km/hr = $\frac{216}{4} = 54 \text{ km/hr}$

Speed in m/sec = $54 \times \frac{5}{18} = 15 \text{ m/sec}$

4. Speed in km/hr = $20 \times \frac{5}{18}$

= 72 km/hr

$72 \text{ km/hr} > 62 \text{ km/hr}$

Hence, 20 m/sec is greater than 62 km/hr.

5. Speed in km/hr = $\frac{370}{5} = 74 \text{ km/hr}$

Speed in m/sec = $74 \times \frac{5}{18} = 20.55 \text{ m/sec}$

1. (a) $2 \text{ min} = (2 \times 60) \text{ sec} = 120 \text{ sec}$

(b) $13 \text{ min} = (13 \times 360) \text{ sec} = 780 \text{ sec}$

(c) $10 \text{ min } 54 \text{ sec} = (10 \times 60) \text{ sec} + 54 \text{ sec}$

= $600 \text{ sec} + 54 \text{ sec}$

= 654 sec

$$\begin{aligned}(d) \quad 14 \text{ min } 16 \text{ sec} &= (14 \times 60) \text{ sec} + 16 \text{ sec} \\&= 840 \text{ sec} + 16 \text{ sec} \\&= 856 \text{ sec}\end{aligned}$$

- 2.** (a) $5 \text{ hrs} = (5 \times 60) \text{ min} = 300 \text{ min}$
- (b) $13 \text{ hrs} = (13 \times 60) \text{ min} = 780 \text{ min}$
- (c) $10 \text{ hrs } 20 \text{ min} = (10 \times 60) \text{ min} + 20 \text{ min}$
 $= 600 \text{ min} + 20 \text{ min}$
 $= 620 \text{ min}$
- (d) $2 \text{ hrs } 40 \text{ min} = (2 \times 60) \text{ min} + 40 \text{ min}$
 $= 120 \text{ min} + 40 \text{ min}$
 $= 160 \text{ min}$

- 3.** (a) $6 \text{ days} = (6 \times 24) \text{ hrs} = 144 \text{ hrs}$
- (b) $23 \text{ days} = (23 \times 24) \text{ hrs} = 552 \text{ hrs}$
- (c) $2 \text{ days } 14 \text{ hrs} = (2 \times 24) \text{ hrs} + 14 \text{ hrs}$
 $= 48 \text{ hrs} + 14 \text{ hrs}$
 $= 62 \text{ hrs}$
- (d) $4 \text{ days } 9 \text{ hours} = (4 \times 24) \text{ hrs} + 9 \text{ hrs}$
 $= 96 \text{ hrs} + 9 \text{ hrs}$
 $= 105 \text{ hrs}$

- 4.** (a) $35 \text{ days} = (35 \div 7) \text{ weeks}$
 $= 5 \text{ weeks}$
- (b) $49 \text{ days} = (49 \div 7) \text{ weeks}$
 $= 7 \text{ weeks}$
- (c) $104 \text{ days} = (104 \div 7) \text{ weeks}$
 $= 14 \text{ weeks } 6 \text{ days}$

$$\begin{aligned} \text{(b)} \quad 147 \text{ days} &= (147 \div 7) \text{ weeks} \\ &= 21 \text{ weeks} \end{aligned}$$

5. (a) $72 \text{ hours} = (72 \div 24) \text{ days}$
 $= 3 \text{ days}$

(b) $96 \text{ hours} = (96 \div 24) \text{ days}$
 $= 4 \text{ days}$

(c) $120 \text{ hours} = (120 \div 24) \text{ days}$
 $= 5 \text{ days}$

(d) $144 \text{ hours} = (144 \div 24) \text{ days}$
 $= 6 \text{ days}$

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1. (a)

Weeks	Days
32	8
+ 21	3
54	4

(b)

Days	Hours
13	15
+ 14	13
28	4

(c)

Hours	Min
21	56
+ 10	32
32	28

(d)

Weeks	Days
13	7
- 11	3
2	4

(e)

Days	Hours
27	46
- 14	13
2	9

(f)

Hours	Min
29	46
- 13	21
16	25

- 2.** (a) 8 weeks 2 days
(b) 15 years 4 months
(c) 11 days and 3 hours
(d) 7 hours and 16 minutes
(e) 27 minutes and 70 seconds

- 3.** (a) 2 weeks and 5 days

- (b) 2 hours and 39 minutes
- (c) 4 years and 8 hours
- (d) 4 days and 18 hours
- (e) 1 minute and 55 seconds

4. The party get over at 5 : 25 p.m.

5. Cooking finished at 2 : 45 p.m.

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6. 10th September

7. 3 hours 35 minutes

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$$\begin{aligned}1. \text{ (a) } ^\circ\text{F} &= \frac{9}{5} ^\circ\text{C} + 32 \\&= \frac{9}{5} \times 20^\circ + 32 \\&= 36^\circ + 32 = 68^\circ\text{F}\end{aligned}$$

$$\begin{aligned}\text{(b) } ^\circ\text{F} &= \frac{9}{5} \times 35 + 32 \\&= 63^\circ + 32 = 95^\circ\text{F}\end{aligned}$$

$$\begin{aligned}\text{(c) } ^\circ\text{F} &= \frac{9}{5} \times 60 + 32 \\&= 108 + 32 = 140^\circ\text{F}\end{aligned}$$

$$\begin{aligned}\text{(d) } ^\circ\text{F} &= \frac{9}{5} \times 54 + 32 \\&= 97.2 + 32 = 129.2^\circ\text{F}\end{aligned}$$

$$\begin{aligned}\text{(e) } ^\circ\text{F} &= \frac{9}{5} \times 75 + 32 \\&= 135 + 32 = 167^\circ\text{F}\end{aligned}$$

$$\begin{aligned}\text{(f) } ^\circ\text{F} &= \frac{9}{5} \times 90 + 32 \\&= 162 + 32 = 194^\circ\text{F}\end{aligned}$$

$$2. \text{ (a) } ^\circ\text{C} = (59 - 32) \times \frac{5}{9}$$

$$= 27 \times \frac{5}{9} = 15 \text{ } ^\circ\text{C}$$

$$\begin{aligned}(b) \ ^\circ C &= (68 - 32) \times \frac{5}{9} \\ &= 36 \times \frac{5}{9} = 20 \ ^\circ C\end{aligned}$$

$$(c) \ ^\circ C = (65 - 32) \times \frac{5}{9} \\ = 63 \times \frac{5}{9} = 35 \ ^\circ C$$

$$(d) \ ^\circ C = (77 - 32) \times \frac{5}{9} \\ = 45 \times \frac{5}{9} = 25 \ ^\circ C$$

$$(e) \quad {}^{\circ}\text{C} = (131 - 32) \times \frac{5}{9}$$

$$= 99 \times \frac{5}{9} = 55 \, {}^{\circ}\text{C}$$

$$(f) \quad {}^{\circ}\text{C} = (122 - 32) \times \frac{5}{9}$$

$$= 90 \times \frac{5}{9} = 50 \, {}^{\circ}\text{C}$$

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- 1.** (a) 5 km 56 m (b) 66 kg 379 g
(c) 97 km 153 ml (d) 164 m 41 cm

2. (a) 3 m 524 cm (b) 2 m
(c) 0.14 cm (d) 1 kg 649 g
(e) 3 kg 906 g (f) 49007 g
(g) 5 l 013 ml (h) 5 l 142 ml

3. (a) 29 km 191 m (b) 30 kg 303 g
(c) 4 l 238 ml (d) 17 m 75 cm

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- 1.** (a) 0.135 *kl* (b) 8.38 *l*
(c) 1.95 *kl* (d) 7 *dal*
(e) 1.850 *kg* (f) 2.505 *g*

- (g) 25.95 g (h) 257.5 dg
(i) 0.378 km
- 2.** (a) 90099 ml (b) 3515 cl
(c) 35500 ml (d) 7000 l
(e) 21900 mg (f) 44800 g
(g) 6040 g (h) 6200 mg
(i) 3045 cm

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- 1.** (a) 8 kg 320 g (b) 25 kg 801 g
(c) 64 kg 47 g (d) 12 cm 8 mm
(e) 25 km 62 m (f) 52 l 75 ml
- 2.** (a) 3 kg 030 g (b) 23 km 750 m
(c) 185 cm (d) 10 l 440 ml
(e) 1 kg 900 g (f) 11 g 280 mg

3. Total distance travelled = 15 km 200 m

$$\begin{aligned} &+ 13 \text{ km } 600 \text{ m} + 5 \text{ km } 425 \text{ m} \\ &= 34 \text{ km } 225 \text{ m} \end{aligned}$$

4. Quantity of juice left = 3 l 500 ml – 1 l 600 ml
= 1 l 900 ml

5. Quantity of juice left = 4 l 500 ml – 2 l 925 ml
= 1 l 575 ml

6. Total length of cloth bought = 4m 25 cm + 2m 75 cm
+ 6m 50 cm
= 13 m 50 cm

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- 1.** (a) 8.5625 km (b) 17.792 g
(c) 24.120 cm (d) 15.7201 kg
(e) 8.244 mg (f) 19.761 m
- 2.** Distance covered in a week = $13.41 \text{ km} \times 7$
= 93.87 km

- 3.** Weight of 13 such boxes $= 2.792 \text{ kg} \times 13$
 $= 36.296 \text{ kg}$
- 4.** Total quantity of chemical $= 3.316 \text{ l} \times 25$
 $= 82.9 \text{ l}$

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- 1.** (a) 2.9 m (b) 747.33 l
(c) 6270 cl (d) 4.35 g
(e) 840 kg (f) 51.2 m
- 2.** Quantity of soup given to each $= 8 \text{ l } 785 \text{ ml} \div 7$
 $\text{person} = 8 \text{ l } 785 \text{ ml} \div 7$
 $= 1 \text{ l } 255 \text{ ml}$

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- 1.** (a) ray (b) line
(c) Two or more (d) line segment
(e) parallel
- 2.** (a) False (b) True
(c) False (d) False
- 3.** (a) PQ, QR, RP (b) AB, BC, CD, DA
(c) AB, BC, CD, DA, CE, DE
- 4.** (a) Point (b) Line
(c) Ray (d) Line segment

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- 1.** (a) Vertex – Q (b) Vertex – E
Arm – QP, QR Arm – ED, EF
(c) Vertext – Y (d) Vertext
Arm – YX, YZ
- 2.** (a) Actue (b) Obtuse
(c) Reflex (d) Acute

- 3.** Do it yourself.
- 4.** (a) Acute angle (b) Acute angle
(c) Obtuse angle (d) Reflex angle
(e) Zero angle (f) Obtuse angle
(g) Reflex angle (h) Reflex angle
(i) Reflex angle (h) Complete angle
- 5.** (a) True (b) False
(c) False

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- (d) False (e) True
(f) False (g) False
(h) False (i) True
- 6.** (a) \overline{AB}
(b) reflex
(c) right
(d) Protractor

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- 1.** (a) longest (b) Half
(c) diameter (d) half
(e) 2

2. Do it yourself.

- 3.** (a) Diameter = $2 \times 2 \text{ cm} = 4 \text{ cm}$
(b) Diameter = $2 \times 2.5 \text{ cm} = 5 \text{ cm}$
(c) Diameter = $2 \times 3.54 \text{ cm} = 7.08 \text{ cm}$
(d) Diameter = $2 \times 5 \text{ cm} = 10 \text{ cm}$

- 4.** (a) Radius = $\frac{d}{2} \times \frac{8 \text{ cm}}{2} = 4 \text{ cm}$
(b) Radius = $\frac{d}{2} \times \frac{7.6 \text{ cm}}{2} = 3.8 \text{ cm}$

$$(c) \text{ Radius} = \frac{d}{2} \times \frac{4.8 \text{ cm}}{2} = 2.4 \text{ cm}$$

$$(d) \text{ Radius} = \frac{d}{2} \times \frac{6.42 \text{ cm}}{2} = 3.21 \text{ cm}$$

5. Do it yourself.

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- | | |
|------------|---------|
| 1. (a) No | (b) No |
| (c) Yes | (d) Yes |
| 2. (a) Yes | (b) No |
| (c) Yes | (d) Yes |
| (e) No | (f) Yes |

3. $\angle A + \angle B + \angle C = 180^\circ$

$$\angle A + 75^\circ + 30^\circ = 180^\circ$$

$$\angle A + 105^\circ = 180^\circ$$

$$\angle A = 180^\circ - 105^\circ$$

$$\angle A = 75^\circ$$

4. $\angle A + \angle B + \angle C = 180^\circ$

$$60^\circ + \angle B + 70^\circ = 180^\circ$$

$$\angle B + 130^\circ = 180^\circ$$

$$\angle B = 180^\circ - 130^\circ$$

$$\angle B = 50^\circ$$

5. $\angle 1 + \angle 2 + \angle 3 = 180^\circ$

$$90^\circ + 45^\circ + \angle 3 = 180^\circ$$

$$\angle 3 + 180^\circ - (90^\circ + 45^\circ)$$

$$\angle 3 = 180^\circ - 135^\circ$$

$$\angle 3 = 45^\circ$$

6. $\angle 1 + \angle 2 + \angle 3 = 180^\circ$

$$65^\circ + 65^\circ + \angle 3 = 180^\circ$$

$$130^\circ + \angle 3 = 180^\circ$$

$$\angle 3 = 180^\circ - 130^\circ$$

$$\angle 3 = 50^\circ$$

$$\text{IInd angle} = 65^\circ$$

$$\text{IIInd angle} = 50^\circ$$

7. $\angle 1 + \angle 2 + \angle 3 = 180^\circ$

$$(\angle 1 + \angle 2) + \angle 3 = 180^\circ$$

$$120^\circ + \angle 3 = 180^\circ$$

$$90^\circ + 30^\circ + \angle 3 = 180^\circ$$

$$\angle 3 = 180^\circ - 90^\circ - 30^\circ$$

$$\angle 3 = 60^\circ$$

Hence, the three angles are 90° , 30° , 60° .

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- 1.** (a) 90° (b) 90°

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- (c) 360° (d) 360° (e) 360°

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MODEL TEST PAPER-III

- 1.** (a) $1 : 2$ (b) $3 : 25$

(c) $7 : 19$ (d) $2 \frac{4}{9} = \frac{22}{9} = 22 : 9$

- 2.** (a) $2 : 3$ (b) $9 : 11$

(c) $5 : 4$ (d) $2 : 3$

(e) $15 : 17$ (f) $2 : 3$

3. (a) Distance = Speed \times Time

$$= 70 \times 4.5$$

$$= 315 \text{ km}$$

(b) Distance = Speed \times Time

$$= 55 \times 6$$

$$= 330 \text{ km}$$

4. (a) Speed = $\frac{d}{t} = \frac{800}{5} = 160 \text{ km/hr}$

(b) Speed = $\frac{d}{t} = \frac{7}{2} = 3.5 \text{ km/hr}$

(c) Speed = $\frac{d}{t} = \frac{208}{4} = 52 \text{ km/hr}$

(d) Speed = $\frac{d}{t} = \frac{93}{3} = 31 \text{ km/hr}$

- 5.** (a) $20 \text{ m/sec} \times \frac{18}{5} = 72 \text{ km/hr}$
- (b) $40 \text{ m/sec} \times \frac{18}{5} = 144 \text{ km/hr}$
- (c) $12.5 \text{ m/sec} \times \frac{18}{5} = 45 \text{ km/hr}$
- (d) $45 \text{ m/sec} \times \frac{18}{5} = 162 \text{ km/hr}$

- 6.** (a) $35 \text{ days} = (35 \div 7) \text{ weeks}$
 $= 5 \text{ weeks}$
- (b) $49 \text{ days} = (49 \div 7) \text{ weeks}$
 $= 7 \text{ weeks}$
- (c) $104 \text{ days} = (104 \div 7) \text{ weeks}$
 $= 14 \text{ weeks } 6 \text{ days}$
- (b) $147 \text{ days} = (147 \div 7) \text{ weeks}$
 $= 21 \text{ weeks}$
- 7.** (a) $72 \text{ hours} = (72 \div 24) \text{ days}$
 $= 3 \text{ days}$
- (b) $96 \text{ hours} = (96 \div 24) \text{ days}$
 $= 4 \text{ days}$
- (c) $120 \text{ hours} = (120 \div 24) \text{ days}$
 $= 5 \text{ days}$
- (d) $144 \text{ hours} = (144 \div 24) \text{ days}$
 $= 6 \text{ days}$

- 8.** (a) 2 weeks and 5 days (b) 2 hours and 39 minutes
- (c) 4 years and 8 hours (d) 4 days and 18 hours
- (e) 1 minute and 55 seconds

9. (a) ${}^{\circ}\text{F} = \frac{9}{5} {}^{\circ}\text{C} + 32$
 $= \frac{9}{5} \times 20^{\circ} + 32$
 $= 36^{\circ} + 32 = 68^{\circ}\text{F}$

(b) ${}^{\circ}\text{F} = \frac{9}{5} \times 35 + 32$
 $= 63^{\circ} + 32 = 95^{\circ}\text{F}$

$$(c) {}^{\circ}\text{F} = \frac{9}{5} \times 60 + 32 \\ = 108 + 32 = 140{}^{\circ}\text{F}$$

$$(d) {}^{\circ}\text{F} = \frac{9}{5} \times 54 + 32 \\ = 97.2 + 32 = 129.2{}^{\circ}\text{F}$$

$$(e) {}^{\circ}\text{F} = \frac{9}{5} \times 75 + 32 \\ = 135 + 32 = 167{}^{\circ}\text{F}$$

$$(f) {}^{\circ}\text{F} = \frac{9}{5} \times 90 + 32 \\ = 162 + 32 = 194{}^{\circ}\text{F}$$

10.(a) 3 m 524 cm

(b) 2 m

(c) 0.14 cm

(d) 1 kg 649 g

(e) 3 kg 906 g

(f) 49007 g

(g) 5 l 013 ml

(h) 5 l 142 ml

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11.(a) 90099 ml

(b) 3515 cl

(c) 35500 ml

(d) 7000 l

(e) 21900 mg

(f) 44800 g

(g) 6040 g

(h) 6200 mg

(i) 3045 cm

12.(a) 8 kg 320 g

(b) 25 kg 801 g

(c) 64 kg 47 g

(d) 12 cm 8 mm

(e) 25 km 62 m

(f) 52 l 75 ml

13.(a) 2.9

(b) 747.33

(c) 6264.71

(d) 4.35

(e) 840

(f) 51.18

14.(a) PQ, QR, RP, TS

(b) AB, BC, CD, DA, AC, BD

(c) AB, BC, CD, DE, EA, CE, AD

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1. (a) Side = 4 cm

$$\begin{aligned}\text{Perimeter} &= 4 \times \text{side} \\ &= 4 \times 4 \text{ cm} = 16 \text{ cm}\end{aligned}$$

- (b) Side = 12 cm

$$\begin{aligned}\text{Perimeter} &= 4 \times \text{side} \\ &= 4 \times 12 \text{ cm} = 48 \text{ cm}\end{aligned}$$

- (c) Side = 19 cm

$$\begin{aligned}\text{Perimeter} &= 4 \times \text{side} \\ &= 4 \times 19 \text{ cm} = 76 \text{ cm}\end{aligned}$$

- (d) Side = 28 cm

$$\text{Perimeter} = 4 \times \text{side}$$

$$= 4 \times 28 \text{ cm} = 112 \text{ cm}$$

- (e) Side = 37 cm

$$\begin{aligned}\text{Perimeter} &= 4 \times \text{side} \\ &= 4 \times 37 \text{ cm} = 148 \text{ cm}\end{aligned}$$

- (f) Side = 56 cm

$$\text{Perimeter} = 4 \times \text{side}$$

$$= 4 \times 56 \text{ m} = 224 \text{ m}$$

- 2.** (a) $l = 6 \text{ cm}$, $b = 3 \text{ cm}$

$$\begin{aligned}\text{Perimeter} &= 4(l + b) \\&= 2(6\text{cm} + 3\text{ cm}) \\&= 2 \times 9\text{cm} = 18\text{ cm}\end{aligned}$$

- (b) $l = 13 \text{ m}$, $b = 12 \text{ m}$

$$\begin{aligned}\text{Perimeter} &= 2(l + b) \\&= 2(13 + 12) \\&= 2 \times 25m = 50m\end{aligned}$$

(c) $l = 12 \text{ cm}, b = 4 \text{ m}$

$$\begin{aligned}\text{Perimeter} &= 2(l + b) \\ &= 2(12 + 4) \\ &= 2 \times 16 \text{ cm} = 32 \text{ m}\end{aligned}$$

(d) $l = 17 \text{ cm}, b = 11 \text{ m}$

$$\begin{aligned}\text{Perimeter} &= 2(l + b) \\ &= 2(17 + 11) \\ &= 2 \times 28 \text{ m} = 56 \text{ m}\end{aligned}$$

3. (a) Perimeter $= 4\text{cm} + 6\text{cm} + 12\text{cm}$
 $= 22\text{cm}$

(b) Perimeter $= 8\text{m} + 12\text{cm} + 4\text{cm}$
 $= 24\text{cm}$

(c) Perimeter $= 10\text{m} + 15\text{m} + 25\text{m}$
 $= 50\text{m}$

(d) Perimeter $= 13\text{cm} + 3\text{cm} + 5\text{cm}$
 $= 21\text{cm}$

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4. Perimeter of triangle $= 25\text{cm} + 25\text{cm} + 36\text{cm}$
 $= 86\text{cm}$

5. Perimeter of park $= 2(l + b)$
 $= 2(20 \text{ m} + 13 \text{ m})$
 $= 66 \text{ m}$

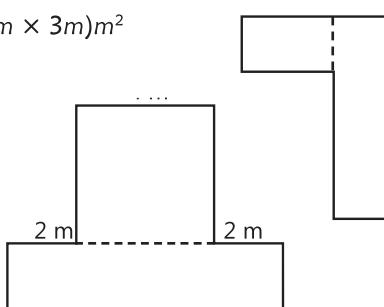
Distance Rohan jogs $= 66 \text{ m} \times 4$
 $= 264 \text{ m}$

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1. (a) Area $= (11\text{m} \times 3\text{m})\text{m}^2 + (5\text{m} \times 3\text{m})\text{m}^2$
 $= 33\text{m}^2 + 15\text{m}^2$
 $= 48\text{m}^2$

(b) Area $= (8 \times 2)\text{m}^2 +$
 $= (4 \times 4)\text{m}^2$
 $= 16\text{m}^2 + 16\text{m}^2$
 $= 32\text{m}^2$

2. (a) Area $= 26\text{cm} \times 14\text{cm} = 364\text{cm}^2$



- (b) Area = $23m \times 5m = 115cm^2$
- (c) Area = $14cm \times 5cm = 70cm^2$
- (d) Area = $20m \times 10m = 200cm^2$
- (e) Area = $11cm \times 3cm = 33cm^2$
- (f) Area = $9cm \times 4cm = 36cm^2$

3. Area of square = side × side

$$\begin{aligned} &= 12m \times 12m \\ &= 144cm^2 \end{aligned}$$

4. Area of square = side × side

$$\begin{aligned} &= 10cm \times 10cm \\ &= 100cm^2 \end{aligned}$$

Area of rectangle = Area of rectangle

Area of rectangle = l × b

$$\begin{aligned} 100\ cm^2 &= 20cm \times b \\ b &= \frac{100}{20} \\ b &= 5cm \end{aligned}$$

Hence, breadth = 5cm

5. Area of room = l × b

$$\begin{aligned} &= 9m \times 7m \\ &= 63m^2 \end{aligned}$$

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- 1.** (a) Volume of cuboid = l × b × h
 $\begin{aligned} &= 3cm \times 4cm \times 2cm \\ &= 24cm^3 \end{aligned}$
- (b) Volume of cuboid = l × b × h
 $\begin{aligned} &= 12cm \times 10cm \times 8cm \\ &= 960cm^3 \end{aligned}$
- (c) Volume of cuboid = l × b × h
 $\begin{aligned} &= 8m \times 6m \times 3m \\ &= 144m^3 \end{aligned}$
- (d) Volume of cuboid = l × b × h
 $\begin{aligned} &= 18m \times 15m \times 10m \\ &= 2700m^3 \end{aligned}$

- 2.** (a) Side = 5cm
 Volume of cube = side × side × side
 $= 5\text{cm} \times 5\text{cm} \times 5\text{cm}$
 $= 125\text{cm}^3$
- (b) Side = 7cm
 Volume of cube = $7\text{cm} \times 7\text{cm} \times 7\text{cm}$
 $= 343\text{cm}^3$
- (c) Side = 6.5cm
 Volume of cube = $6.5\text{cm} \times 6.5\text{cm} \times 6.5\text{cm}$
 $= 274.625\text{cm}^3$
- (d) Side = 8.5cm
 Volume of cube = $8.4\text{cm} \times 8.4\text{cm} \times 8.4\text{cm}$
 $= 592.704\text{cm}^3$
- 3.** Volume of cubical tank = $25\text{cm} \times 25\text{cm} \times 25\text{cm}$
 $= 15625\text{cm}^3$
- 4.** Volume of eraser = $5\text{cm} \times 4\text{cm} \times 3\text{cm}$
 $= 60\text{cm}^3$
 Volume of 5 eraser = $60\text{cm}^3 \times 5$
 $= 300\text{cm}^3$
- 5.** Volume of water tank = $30\text{m} \times 25\text{m} \times 15\text{m}$
 $= 11250\text{m}^3$
- 6.** Volume of box = $15\text{cm} \times 12\text{cm} \times 10\text{cm}$
 $= 1800\text{cm}^3$
 Volume of another box = $7.5\text{cm} \times 6\text{cm} \times 5\text{cm}$
 $= 225\text{cm}^3$
 Difference = $1800\text{cm}^3 - 225\text{cm}^3$
 $= 1575\text{cm}^3$
- 7.** Volume of chocolate box =
 $= 17\text{cm} \times 14\text{cm} \times 8\text{cm}$
 $= 1904\text{cm}^3$

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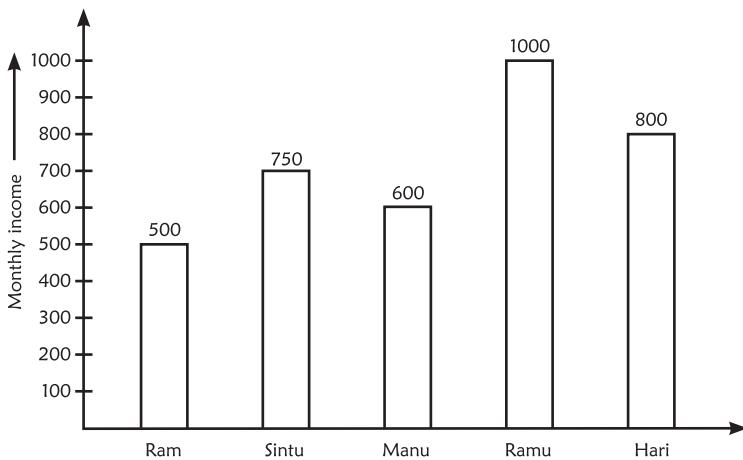
- 1.** (a) Shastri (b) 40 students
 (c) $80 + 40 + 60 + 70 + 90 = 340$ students
- 2.** (a) 17 books (b) Monday and Thursday
 (c) Wednesday
 (d) $12 + 17 + 23 + 12 + 20 = 84$ books

3.

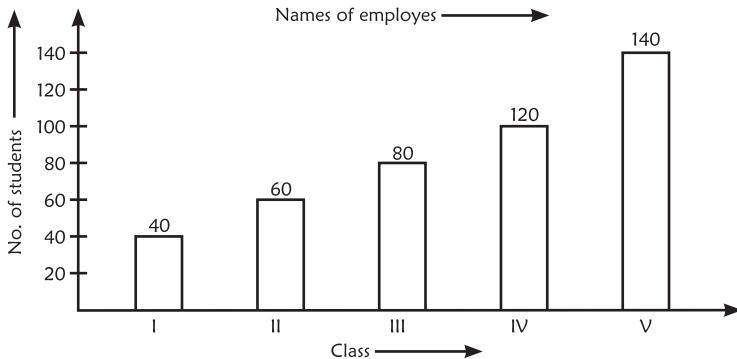
Trees	
Mango	
Neem	
Banyan	
Gulmohar	
Palm	

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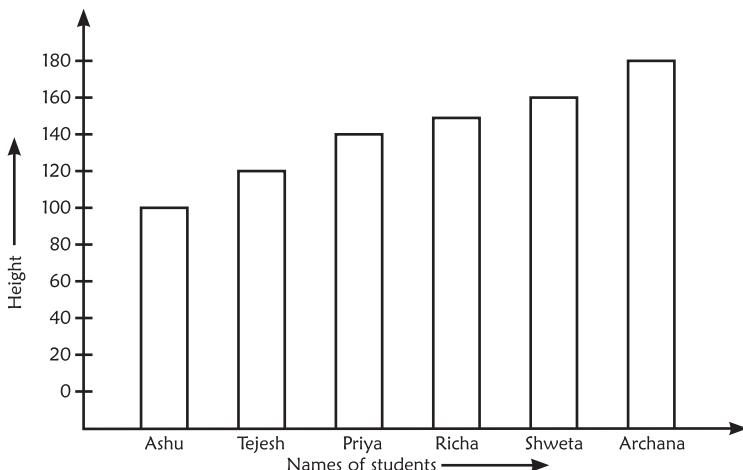
1.



2.



3.



4. (a) 180

(b) $\frac{76}{180}$

(c) $\frac{20}{180}$

(d) $52 - 32 = 20$ people

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1. $36 ; 49$

2. (a) 2025

(b) 3025

(c) 4225

(d) 7225

3. $(6 \times 6) - (5 \times 5) = 36 - 25 = 11$

$(9 \times 9) - (8 \times 8) = 81 - 64 = 17$

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4. 9

5. (c) $\frac{7}{3}, 7, 21$

(d) 1, 10, 100

(e) 0.99, 0.099, 0.0099

6. (a) 75

(b) 92

(c) 170

7. $1 + 3 + 5 + 7 + 9 + 11 + 13 = 49$ (7^2)

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MODEL TEST PAPER-IV

1. (a) $l = 6$ cm, $b = 3$ cm

Perimeter = $4(l + b)$

$$= 2(6\text{cm} + 3\text{ cm}) \\ = 2 \times 9\text{cm} = 18\text{ cm}$$

(b) l = 13 m, b = 12 m

$$\begin{aligned}\text{Perimeter} &= 2(l + b) \\ &= 2(13 + 12) \\ &= 2 \times 25\text{m} = 50\text{ m}\end{aligned}$$

(c) l = 12 cm, b = 4 m

$$\begin{aligned}\text{Perimeter} &= 2(l + b) \\ &= 2(12 + 4) \\ &= 2 \times 16\text{ cm} = 32\text{ m}\end{aligned}$$

(d) l = 17 cm, b = 11 m

$$\begin{aligned}\text{Perimeter} &= 2(l + b) \\ &= 2(17 + 11) \\ &= 2 \times 28\text{m} = 56\text{m}\end{aligned}$$

2. (a) Perimeter = $4\text{cm} + 6\text{cm} + 12\text{cm}$
= 22cm

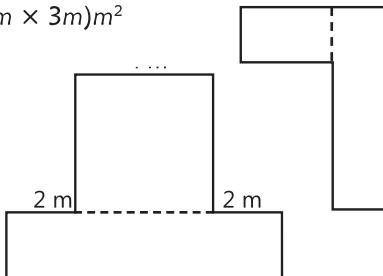
(b) Perimeter = $8\text{m} + 12\text{cm} + 4\text{cm}$
= 24cm

(c) Perimeter = $10\text{m} + 15\text{m} + 25\text{m}$
= 50m

(d) Perimeter = $13\text{cm} + 3\text{cm} + 5\text{cm}$
= 21cm

3. (a) Area = $(11\text{m} \times 3\text{m})\text{m}^2 + (5\text{m} \times 3\text{m})\text{m}^2$
= $33\text{m}^2 + 15\text{m}^2$
= 48m^2

(b) Area = $(8 \times 2)\text{m}^2 +$
= $(4 \times 4)\text{m}^2$
= $16\text{m}^2 + 16\text{m}^2$
= 32m^2



4. (a) Area = $26\text{cm} \times 14\text{cm} = 364\text{cm}^2$

(b) Area = $23\text{m} \times 5\text{m} = 115\text{cm}^2$

(c) Area = $14\text{cm} \times 5\text{cm} = 70\text{cm}^2$

(d) Area = $20\text{m} \times 10\text{m} = 200\text{cm}^2$

(e) Area = $11\text{cm} \times 3\text{cm} = 33\text{cm}^2$

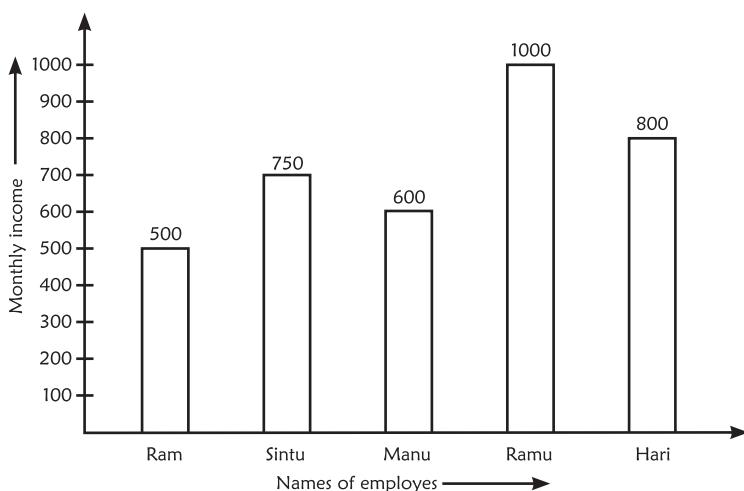
(f) Area = $9\text{cm} \times 4\text{cm} = 36\text{cm}^2$

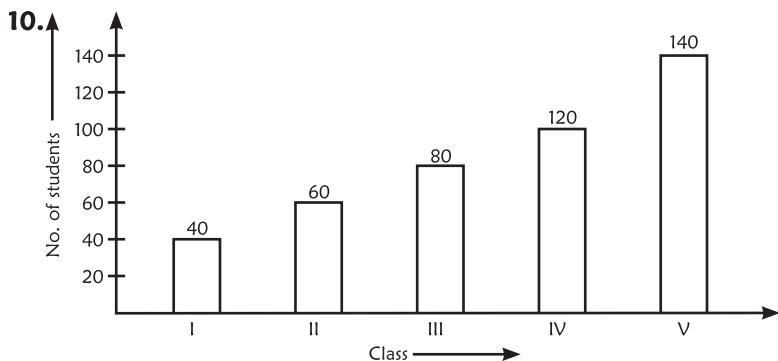
5. (a) Volume of cuboid $= l \times b \times h$
 $= 3\text{cm} \times 4\text{cm} \times 2\text{cm}$
 $= 24\text{cm}^3$
- (b) Volume of cuboid $= l \times b \times h$
 $= 12\text{cm} \times 10\text{cm} \times 8\text{cm}$
 $= 960\text{cm}^3$
- (c) Volume of cuboid $= l \times b \times h$
 $= 8\text{m} \times 6\text{m} \times 3\text{m}$
 $= 144\text{m}^3$
- (d) Volume of cuboid $= l \times b \times h$
 $= 18\text{m} \times 15\text{m} \times 10\text{m}$
 $= 2700\text{m}^3$
6. Volume of box $= 15\text{cm} \times 12\text{cm} \times 10\text{cm}$
 $= 1800\text{cm}^3$
- Volume of another box $= 7.5\text{cm} \times 6\text{cm} \times 5\text{cm}$
 $= 225\text{cm}^3$
- Difference $= 1800\text{cm}^3 - 225\text{cm}^3$
 $= 1575\text{cm}^3$
7. Volume of single box $= 17 \times 14 \times 8$
 $= 1904\text{cm}^3$
- Volume of 2 boxes $= 2 \times 1904\text{cm}^3$
 $= 3808\text{cm}^3$

8. Do it yourself.

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9.





11. 36; 49

12.(a) 2025

(b) 3025

(c) 6565

(b) 85×85

13.(a) 9

(b) 13; 19