YEAR 2003 WORKING AND ANSWERS

SECTION A

1

$$\begin{array}{r} 405.2 \\ \times \quad 2.5 \\ \hline 2026\ 0 \\ +8104\ \ \cdot \\ \hline 1013.0\ 0 \end{array} = 1013$$

2

$$= \frac{4+5+8+3}{4}$$
$$= \frac{20}{4}$$
$$= 5$$

3

$$XXV = X + X + V$$
$$= 10 + 10 + 5$$
$$= 25$$

4

A square has 4 lines of symmetry

5

$$0.65 = \frac{65}{100} = \frac{13}{20} \quad LCD = 20$$
$$\left(\frac{13}{20} \times 20\right) \_\_\_\_ \left(\frac{3}{5} \times 20\right)$$
$$13 \_\_\_\_ 12$$
$$6.65 \quad > \frac{3}{5}$$

6

3	4	5	x
10	13	y	19

$3x + 1 = y$ $\quad$ $3x + 1 = y$
$3 \times 5 + 1 = y$ $\quad$ $3x + 1 = 19$
$15 + 1 = y$ $\quad$ $3x = 19 - 1$
$16 = y$ $\quad$ $\frac{3x}{3} = \frac{18}{3}$
$x = 6$

7

$$= 3y - 2y + 5x + x$$
$$= y + 6x$$

8

$$x = 180^o - (70^o + 40^o)$$
$$= 180^o - 110^o$$
$$= 70^o$$

9

1, 2, 3, 5, 8, 13, 21

+1 1+2 2+3 3+5 5+8 8+13

10

$$= \frac{201}{300} \times 100$$
$$= 67\%$$

11

2	20
2	10
5	5
	1

$20 = 2 \times 2 \times 5$

12

$$D = \frac{M}{V} = \frac{1360g}{100cm^3} = 13.6g/cm^3$$

13

$$= \frac{4 \div 4}{100 \div 4} = \frac{1}{25}$$

14

Fifteen thousand = 15,000
one = + 1
Fifteen thousand, one = 15,001

15

$$= \frac{1 \times 88 \times 1}{8 \times 1 \times 11} = 1$$

16

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

17

$$= \frac{20cm}{2m}$$
$$= \frac{20cm}{(2 \times 100)cm}$$
$$= \frac{1}{10}$$

18

2	64
2	32
2	16
2	8
2	4
2	2
	1

$64 = 2^2 \times 2^2 \times 2^2$
$\sqrt{64} = 2 \times 2 \times 2$
$= 8$
$= (5 \times 5) + 8$
$= 25 + 8 = 33$

19

$$= (60min + 40min)$$
$$= 100min$$
$$= (100 \times 60)sec$$
$$= 6,000sec$$

20

2	8	6
2	4	3
2	2	3
3	1	3
		1

$LCM = 2 \times 2 \times 2 \times 3$
$= 24$
$HCF = 2$
$Sum = LCM + HCF$
$= 24 + 2$
$= 26$

21

$$= \frac{4}{3} - \frac{5}{6} \quad LCD = 6$$
$$= \frac{8-5}{6}$$
$$= \frac{3}{6} = \frac{1}{2}$$

22

$$P = 2(L + W)$$
$$= 2(30cm + 20cm)$$
$$= 2 \times 50cm$$
$$= 100cm$$

23

$$= \left(\frac{24}{10} \times 1,000,000\right) = 2,400,000$$
$$= \left(\frac{24}{10} \times 100,000\right) = 24,000$$
$$= 2,400,000m^2 + 24,000m^2$$
$$= 2,424,000m^2$$

24

$LCD = 90$

$\frac{1}{5} \times 90 = 18 \ldots\ldots\ldots (i)$
$\frac{11}{45} \times 90 = 22 \ldots\ldots\ldots (iii)$
$\frac{21}{90} \times 90 = 21 \ldots\ldots\ldots (ii)$
$= \frac{1}{5}, \frac{21}{90}, \frac{11}{45}$

25

$$C = 2\pi r$$
$$= 2 \times 3.14 \times 5cm$$
$$= 31.4cm$$

26

Hint: Increase CP by 5%
$= 100\% + 5\% \quad = 105\%$
$SP = \frac{105}{100} \times 80,000Frw$
$= 84,000Frw$

27

$Peter's + Paul's = 2100F$
$x + 2x = 2100F$
$\frac{3x}{3} = \frac{2100F}{3}$
$x = 700F$
Peter got $700Frw$
Paul got $(700 \times 2) = 1400Frw$

28

$(a).\ 1cm = 10km$
$15cm = (10 \times 15) = 150km$
$(b).\ 8km = (8 \div 10) \quad = 0.8cm$

29

$$A = (L \times W) - (l \times w)$$
$$= (10 \times 6)m^2 - (9.2 \times 5.2)m^2$$
$$= 60m^2 - 47.84m^2$$
$$= 12.16m^2$$

30

$$V = \frac{1}{2}\pi r^2 h$$
$$= \frac{1}{2} \times \frac{22}{7} \times \frac{7}{10} \times \frac{7}{10} \times \frac{15}{10}$$
$$= 1.155m^3$$

SECTION B

31

1st year

$$I = \frac{60,000 \times 1 \times 6}{100} = 3,600F$$

$$A = 60,000 + 3,600 = 63,600F$$

2nd year

$$I = \frac{63,600 \times 1 \times 6}{100} = 3,816F$$

$$A = 63,600 + 3,816 = 67,416F$$

3rd year

$$I = \frac{67,416 \times 1 \times 6}{100} = 4,044.96F$$

$$C.I = 3,600 + 3,816 + 4,044.96$$

$$= 11,460.96Frw$$

Part (b)

$$A = P + C.I$$

$$= 60,000Frw + 11,460.96Frw$$

$$= 71,460.96Frw$$

32

Part (a)

$$= 4m - 4n + 20 - 3m + 6n - 6$$

$$= 4m - 3m + 6n - 4n + 20 - 6$$

$$= m + 2n + 14$$

Part (b)

LCD = 10 (multiply all terms by 10)

$$10 \times \frac{x}{5} - 10 \times \frac{1}{2} = 10 \times \frac{3}{10}$$

$$2x - 5 = 3$$

$$2x = 3 + 5$$

$$\frac{2x}{2} = \frac{8}{2}$$

$$x = 4$$

Part (c)

$$= 3 \times a \times b - b \times c + 6 \times a$$

$$= 3 \times 2 \times 3 - 3 \times 0 + 6 \times 2$$

$$= 18 + 12$$

$$= 30$$

33

Now

John	*Father*
x	$x + 25$

After 5 years

John	*Father*
$x + 5$	$x + 25 + 5$

$$2(x + 5) = x + 30$$

$$2x + 10 = x + 30$$

$$2x - x = 30 - 10$$

$$x = 20$$

John is 20 years old

Father is 20 + 25 = 45 years old

34

$a = 30°(alternate\ angles)$

$d = 50°(alternate\ angles)$

$g = 180° - (50° + 30°)(triangle)$

$= 180° - 80°$

$= 100°$

$f = 180° - g(straight\ line)$

$= 180° - 100°$

$= 80°$

$e = f = 80°(opposite\ angles)$

$c = 50°(isosceles\ triangle)$

$b = 180° - (f + c)(triangle)$

$= 180° - (80° + 50°)$

$= 180° - 130°$

$= 50°$

35

Part (a)

Children	*Kg*	*Days*
40	24	30
50	24	x

Hint: Arrange your work inform of Workers – Job – Time.

Workers	Job	Time
40	24	30
50	24	x

$$x \times 24 \times 50 = 40 \times 24 \times 30$$

$$x = \frac{40 \times 24 \times 30}{24 \times 50}$$

$$x = 24\ days$$

Part (b)

Children	*Kg*	*Days*
40	24	30
50	24	x

Hint: Arrange your work inform of Workers – Job – Time.

Workers	Job	Time
40	24	30
x	14	35

$$x \times 24 \times 35 = 40 \times 14 \times 30$$

$$x = \frac{40 \times 14 \times 30}{24 \times 35}$$

$$x = 20\ children$$

36

Distance covered by the car before the bus started moving.

$$D = S \times T$$

$$= 60km/hr \times (8:00 - 7:00)hr$$

$$= 60km/hr \times 1hr$$

$$= 60km$$

Time taken by the bus to catch up with the car

$$T = \frac{D}{S_2 - S_1}$$

$$= \frac{60km}{90km/hr - 60km/hr}$$

$$= \frac{60km}{30km/hr}$$

$$= 2hr$$

Distance from town A when the bus caught up with the car

$$D = S \times T$$

$$= 90km/hr \times 2hr$$

$$= 180km$$

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Teacher's guidance