## Education and Manpower Bureau Territory-wide System Assessment 2006 Secondary 3 Mathematics Marking Scheme

Question No.	Answers	Marks	Remarks
1	С	1	
2	D	1	
3	В	1	
4	С	1	
5	В	1	
6	С	1	
7	С	1	
8	В	1	
9	А	1	
10	D	1	
11	D	1	
12	В	1	
13	В	1	
14	А	1	
15	А	1	
16	С	1	
17	С	1	
18	А	1	
19	А	1	
20	D	1	
21	D	1	
22	(i) 0 (ii) +500 (iii) -100	1	Must be all correct
23	$7 \times 10^8$	1	
24	(i) Rate (ii) Ratio	1	Must be all correct
25	y - x = 400	1	Accept equivalent equations e.g.: $x + 400 = y$

Question No.	Answers	Marks	Remarks	
26	78	1		
27	$9x^2 - x$	1	Accept $-x + 9x^2$ , $x(9x - 1)$ , etc.	
28	$a^8$	1		
29	(x+3)(x+4)	1	Accept $(x + 4)(x + 3)$ , $(4 + x)(3 + x)$ , etc.	
30	-2	1		
31	$\frac{y}{4x}$	1		
32	$x \ge 10$	1	Accept $x - 10 \ge 0$ , etc.	
33		1	1 mark for solid lines <i>BC</i> , <i>CD</i> , <i>CF</i> and dotted lines <i>AH</i> , <i>EH</i> , <i>GH</i> . Must be all correct.	
34	4	1		
35	$x = \underline{10}  ,  y = \underline{16}$	1	Must be all correct	
36	55	1		
37	32	1		
38	$L_1, L_4$	1	Must be all correct, order of arrangement is not important	
39	(1,2)	1		
40	38.7°	1		
41(a)	3, 10, 24, 19, 17, 7 respectively	1	Must be all correct	
41(b)	13	1		
41(c)	71 - 80	1	Accept 70.5 – 80.5	
42	$\frac{83}{200}$ / 0.415	1	Accept 41.5%	
43	Peter's answer is reasonable.	1	Mark given only when the justification is given	
	$\therefore$ 4 992 ÷ 4.8	1	1 mark for justification	
	$\approx 5\ 000 \div 5$		Other reasonable justifications are also	
	= 1 000		acceptable	



Question No.	Answers	Marks	Remarks
47(a)	Circumference = $2\pi r$ $2\pi r = 10\pi$ r = 5	1 1*	Method mark: other correct methods are also acceptable Answer mark (*please see remarks below)
47(b)	Area of the circular flower-bed $= \pi r^{2}$ $= \pi (5)^{2} m^{2}$ $= 25 \pi m^{2}$	1 1* 1**	Method mark: other correct methods are also acceptable Answer mark (*please see remarks below) Presentation mark (** please see remarks below) 1 mark for part (a) and part (b)
48	Let x m be the length of the signboard. $x^{2} + 0.8^{2} = 1.7^{2}$ x = 1.5 The length of the signboard is 1.5 m. OR The length of the signboard $= \sqrt{1.7^{2} - 0.8^{2}}$ m = 1.5 m	1 1* 1**	Method mark: other correct methods are also acceptable Answer mark (*please see remarks below) Presentation mark (** please see remarks below)
49	6x + 60 = 180 x = 20 OR x + 100 + 60 = 180 x = 20 OR 6x = x + 100 x = 20	1	Method mark: other correct methods are also acceptable Answer mark (*please see remarks below)

Question No.	Answers			Marks	Remarks
50	Table 1				
	Number of correct answers	Tally	Frequency		
	0 - 14	++++-/	6		All frequencies in Table 1
	15 – 29	++++-/	6	1	
	30 - 44	++++-/	6		must de correct
	Table 2				
	Number of correct answers	Tally	Frequency		
	0-8	//	2	1	All frequencies in Table 2
	9-17	////	4		must be correct
	18-26	++++-	5		
	27 – 35		4	1	Tallies correspond with frequencies in
	36 - 44	///	3		Table 1 and 2.
51	No			1	Mark siver only when reasons are
51	INO.			1	given.
	The overall percer	ntage inc	rease of the	1	1 mark for correct reason
	total cost should b	e consid	ered.		
	OR				
	No.				
	Percentage incre	ease			
	$= \frac{800 \times 10\% + 200 \times 20\%}{800 + 200}$ = 12%				Other correct reasons are also acceptable

Remarks: \*Answer mark - (1) Just the correct answer without showing mathematical expression, award the answer mark.

- (2) Mathematical expression is incorrect, do not award the answer mark.
- (3) Poor presentation in the mathematical expression or workings but correct answer given, award the answer mark.

\*\*Presentation mark: (1) Mathematical expression is correct, but wrong answer given, award the presentation mark.

- (2) Mathematical expression is incorrect, do not award the presentation mark.
- (3) Presentation mark includes holistic assessment of mathematical expression, units (missing unit or wrong unit), explanation, statement/conclusion and use of symbols, etc.