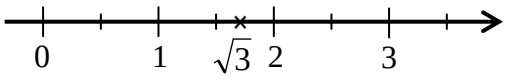
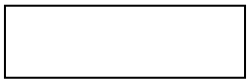
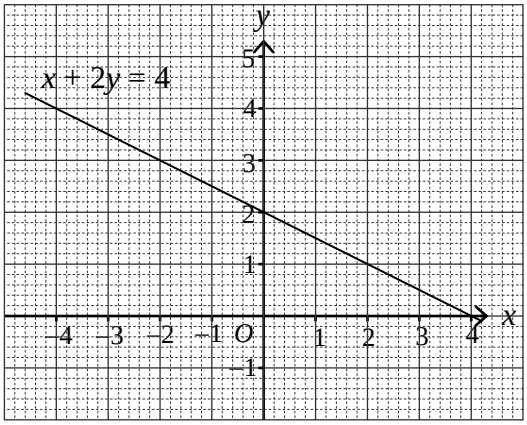
Education and Manpower Bureau
Territory-wide System Assessment 2006
Secondary 3 Mathematics
Marking Scheme

Question No.	Answers	Marks	Remarks
1	C	1	
2	C	1	
3	B	1	
4	C	1	
5	D	1	
6	C	1	
7	B	1	
8	D	1	
9	D	1	
10	C	1	
11	D	1	
12	D	1	
13	C	1	
14	C	1	
15	B	1	
16	C	1	
17	C	1	
18	C	1	
19	C	1	
20	B	1	
21	C	1	
22	-3 , -1 , 0 , 3 respectively	1	Must be all correct
23	(i) Estimated value (ii) Exact value	1	Must be all correct
24		1	Acceptable range: $1.5 < \sqrt{3} < 2$
25	28	1	

Question No.	Answers	Marks	Remarks
26	11	1	
27	-1	1	
28	$-2x + 3xy$	1	Accept $3xy - 2x$, $x(-2 + 3y)$, etc.
29	$5x(3x - 2y)$	1	Accept $(3x - 2y)(5x)$, etc.
30	P, R	1	Must be all correct, order of arrangement is not important Accept $P(2 , 3)$, $R(6.5 , 0)$
31	$2x^2 - 5x - 25$	1	Accept $-25 - 5x + 2x^2$, etc.
32	(i) $<$ (ii) $>$	1	Must be all correct
33	$\angle DBC$ or $\angle CBD$	1	
34		1	
35	Similar, 3 sides proportional	1	Must be all correct
36	133	1	
37	30	1	
38	$\angle BAF$ or $\angle FAB$	1	
39	A, C	1	Must be all correct, order of arrangement is not important
40	3, $60°$ respectively	1	Must be all correct
41	(2) $\rightarrow$ (4) $\rightarrow$ (1) $\rightarrow$ (3)	1	Answers must be in correct order
42(a)	C	1	
42(b)	55	1	
42(c)	14	1	
43	The amount that Mary paid $= \$720 \times (1 - 30\%)$ $= \$504$	1 1* 1**	Method mark: other correct methods are also acceptable Answer mark (*please see remarks below) Presentation mark (** please see remarks below)

Question No.	Answers	Marks	Remarks
44(a)	Volume $= \frac{1}{3}\pi(5^2)(12)\ \text{cm}^3$ $= 100\pi\ \text{cm}^3$	1 1*	1 mark for formula Answer mark (*please see remarks below)
44(b)	Curved surface area $= \pi(5)(13)\ \text{cm}^2$ $= 65\pi\ \text{cm}^2$	1 1* 1**	1 mark for formula Answer mark (*please see remarks below) Presentation mark (** please see remarks below) 1 mark for part (a) and part (b)
45	<table><tr><td>x</td><td>–4</td><td>0</td><td>4</td></tr><tr><td>y</td><td>4</td><td>2</td><td>0</td></tr></table> 	1 1	Both y coordinates must be correct Mark given only when the straight line passes through all 3 points
46	$39 = u(3) + \frac{1}{2}(4)(3)^2$ $u = 7$	1 1	1 mark for substitution Answer mark (*please see remarks below)
47	Volume $= \pi r^2 h$ $\pi(7)^2 h = 245\pi$ $h = 5$	1 1*	Method mark: other correct methods are also acceptable Answer mark (*please see remarks below)

Question No.	Answers	Marks	Remarks
48	Distance travelled $= 120 \times \frac{4 \times 60}{10}$ km = 2 880 km	1 1* 1**	Method mark: other correct methods are also acceptable Answer mark (*please see remarks below) Presentation mark (** please see remarks below)
49	In ΔABC and ΔADC, $\angle ABC = \angle ADC = 90°$ $AB = AD$ (given) $AC = AC$ (common) $\therefore\ \Delta ABC \cong \Delta ADC$ (RHS)	1 1 1	1 mark for method 1 mark for reasons Deduct 1 mark for missing/wrong reasons 1 mark for RHS Other correct proofs are also acceptable
50	$AB = 50 \tan 34°$ m = 33.7 m	1 1* 1**	Method mark: other correct methods are also acceptable Answer mark (*please see remarks below) Presentation mark (** please see remarks below)
51(a)	10 300, 10 100, 10 100 respectively	1	Must be all correct
51(b)	The scale of weekly sale does not start from 0. OR The heights of the bars are not proportional to the weekly sales.	1	Other reasonable explanations are also acceptable
52	The mean height $= \frac{170 + 179 + 184 + 185 + 197}{5}$ cm = 183 cm	1 1* 1**	Method mark: other correct methods are also acceptable Answer mark (*please see remarks below) Presentation mark (** please see remarks below)

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.