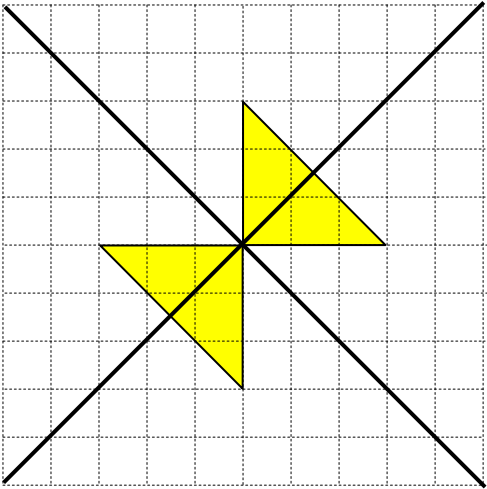


Education and Manpower Bureau
Territory-wide System Assessment 2007
Secondary 3 Mathematics
Marking Scheme

Question No.	Correct answer	Marks	Remarks
1.	B	1	
2.	C	1	
3.	A	1	
4.	A	1	
5.	A	1	
6.	B	1	
7.	D	1	
8.	C	1	
9.	A	1	
10.	C	1	
11.	D	1	
12.	B	1	
13.	B	1	
14.	C	1	
15.	B	1	
16.	C	1	
17.	B	1	
18.	C	1	
19.	B	1	
20.	C	1	
21.	(i) +3 (ii) 0 (iii) -2	1	Mark given only when all answers are correct.
22.	1.2×10^5	1	
23.	(i) Ratio (ii) Rate	1	Mark given only when both answers are correct.
24.	$100 - 18x$	1	
25.	541	1	
26.	1	1	Acceptable answers: +1

Question No.	Correct answer	Marks	Remarks
27.	$4xy - 3y$	1	Acceptable answers: $-3y + 4xy$, $y(4x - 3)$, etc.
28.	x^6	1	
29.	$(3x + 1)^2$	1	
30.	-2	1	
31.	A, C	1	Mark given only when both answers are correct.
32.		1	
33.	congruent, AAS	1	Mark given only when both answers are correct.
34.	40	1	
35.	120	1	
36.	AH / HA	1	
37.	Triangle A, Triangle B	1	Mark given only when both answers are correct.
38.	$(\underline{3}, \underline{-4})$	1	
39.	12	1	
40.	34.8	1	
41.	(i) Continuous (ii) Discrete	1	Mark given only when both answers are correct.
42.	11.5	1	
43.	81	1	
44.	$\frac{18}{25}$ or 0.72	1	Acceptable answer : 72%

Question No.	Correct answer	Marks	Remarks
45.	<p>Total amount</p> $\approx \$5 \times 2 + \$20 \times 3 + \$15 \times 2 + \10×1 $= \$110$ <p>OR</p> <p>\therefore \$19.7, \$14.8 and \$9.8 are close to \$20, \$15 and \$10 respectively.</p> <p>\therefore Total amount \approx \$110</p>	<p>1</p> <p>1*</p> <p>1</p> <p>1*</p>	<p>Accept other reasonable methods of estimation</p> <p>1 mark for the estimated value</p> <p>Accept other reasonable methods of estimation</p> <p>1 mark for the estimated value</p>
46.	<p>The amount received after 2 years</p> $= \$50\,000 \times (1 + 4\%)^2$ $= \$54\,080$	<p>1</p> <p>1*</p> <p>1**</p>	<p>Accept any other correct working</p> <p>1 mark for answer</p> <p>1 mark for literal expression / unit / presentation</p>
47(a).	$r = \frac{S - a}{S} \quad \text{or} \quad r = 1 - \frac{a}{S}$	<p>1</p>	
47(b).	$r = \frac{6 - 9}{6}$ $= -\frac{1}{2} \quad \text{or} \quad -0.5$ <p>OR</p> $6 = \frac{9}{1 - r}$ $r = 1 - \frac{9}{6}$ $= -\frac{1}{2} \quad \text{or} \quad -0.5$	<p>1</p> <p>1*</p> <p>1</p> <p>1*</p>	<p>1 mark for substituting values into the formula obtained in (a)</p> <p>1 mark for answer</p> <p>1 mark for substituting values into the formula</p> <p>1 mark for answer</p>
48.	<p>$\angle ABC = \angle ADE$ (given)</p> <p>$\angle ACB = \angle AED$ (given)</p> <p>$\angle BAC = \angle DAE$ (common angle)</p> <p>$\triangle ABC \sim \triangle ADE$ (AAA / equiangular)</p>	<p>} 2</p> <p>1</p>	<p>1 mark for correct proof</p> <p>1 mark for correct reasons</p> <p>1 mark for correct conclusion</p>

Question No.	Correct answer	Marks	Remarks
49.	Distance $= \sqrt{15^2 + 8^2} \text{ km}$ $= 17 \text{ km}$	1 1* 1**	Accept any other correct working 1 mark for answer 1 mark for literal presentation / unit / presentation
50.	$x + 8 = 42$ $x = 34$	1 1*	Accept any other correct working 1 mark for answer
51.	(a) 5 (b) The bars of different widths exaggerate the difference in annual sales of Company A and Company B. OR The areas of the bars are not proportional to the annual sales.	1* 1	1 mark for answer Accept any reasonable explanation
52.	Mean time $= \frac{9.78 + 9.79 + 9.83 + 9.84 + 9.86}{5} \text{ s}$ $= 9.82 \text{ s}$	1 1* 1**	Award 1 mark for the formula $\bar{x} = \frac{\sum_{i=1}^n x_i}{n}$ 1 mark for answer 1 mark for literal expression / unit / presentation

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 working 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 expressions, units (missing unit or wrong unit), explanation, statement/conclusion and use of symbols, etc.