Section A: Algebra (30 marks)

1

(a) $4 + 3a$ ✓

(b) $6x^2y$ ✓

(c) $8x^3$ ✓

2.

(a) $3x + 12 + 16 - 2x$ ✓
$= x + 28$ ✓c (CAO ✓✓)

(b) $(x+3)(x+3)$ OR $x^2 + 3x + 3x + 9$ ✓
$= x^2 + 6x + 9$ ✓ (CAO ✓✓)

3

(a) $ab(2a - 1)$ ✓

(b) $(x - 3)(x - 4)$ ✓

(c) $(x + 1)(x - 1)$ ✓

4.

(a) $x = 12$ ✓

(b) $y = 9$ ✓

(c) $x = 5.5 / \frac{22}{4} / \frac{11}{2} / 5\frac{1}{2}$ ✓

(d) $6 - 3x = 9$ } ✓ OR $2 - x = 3$ } ✓
$-3x = 3$ } $- x = 1$ }
$x = -1$ ✓c $x = -1$ ✓c

(e) $3x + 5 = 2x + 2$ ✓
$x = -3$ ✓c

(f) $x = -1$ or 4 ✓ (need both solutions)

(g) $(x - 3)(x + 2) = 0$ ✓
$x = 3$ or -2 ✓c

5 $A = 20$ ✓
$B = 8$ ✓

6

(a) y-intercept = 2 ✓

(b) c) $y = 2 - x^2$ ✓

7 $y = 3x - 2$ ✓✓
(one for each constant – form must be correct (-1 for no y =))

8

(a) $y = 2$ ✓

(b) $y = \frac{2}{3}x - 2$ ✓

(c) See answer sheet:
y-intercept (3) ✓
gradient (2) ✓

Section B: Number (20 marks)

9

(a) 3 300 ✓

(b) 0.003622 ✓

10.

(a) 16.5 ✓

(b) 5.49 (28…) ✓

(c) 210.6 ✓

(d) 1.6 ✓

(e) 7 ✓

11 1 part = 21

147 : 84 ✓✓ CAO ✓✓

12 102 kg ✓ (units not required)

13 $\frac{49}{15}$ / $3\frac{4}{15}$/ 3.2666667 ✓

14 $\frac{7}{25}$ ✓ (must be a fraction)

15 0.32 ✓ (must be a decimal)

16 36 ✓

17 (a) 3.6103×10^3 ✓

(b) 1.234×10^{-3} ✓

18 290 ÷ 1.15 ✓
= \$252.(17) ✓ (units not needed)

19 3 minibuses
3 × 30 = \$90 ✓
Total = 240
Each = 240 ÷ 40 = \$6 ✓c

Section C: Geometry and Trigonometry (25 marks)

20 (a) w = 34° ✓
x = 72° ✓

(b) y = 120° co-int angles, II lines, sum to 180 (need both angle AND reason) ✓
z = 67° corresp. angles, II lines =, angles in tri sum to 180 (need reason AND angle) ✓
Note: If student correctly works out both angles but has no reasons, award ✓✗

21 7x – 10 = 5x + 30 corresp. angles II lines = ✓
2x = 40
x = 20° ✓

22 Sum of interiors = (6–2)x180 = 720° ✓
x = 720 – 663
x = 57° ✓c

23 Sum interiors = (5-2) × 180 = 540° ✓
Each angle = $\frac{540}{5}$ = 108° ✓

24 (a) $x^2 = 9.1^2 - 5.3^2$ ✓ or equivalent
$x = 7.3972$ ... ✓c (correctly rounded)

(b) y = 12 × cos(48) ✓
= 8.02956 ✓

(c) Tan(64) = $\frac{7}{z}$ ✓
z = 3.41412…… ✓c

25 tan(A) = $\frac{8}{3}$ ✓
A = 69.4° ✓c

26 $\cos\theta = \frac{6}{10}$
$\theta = 53.1°$ ✓
Bearing = 90 – 53.1°
= 037 ✓c

27 (a) x = 90° angle in semi-circle = 90° ✓
y = 34° angle sum triangle is 180° ✓
z = 56° tgt perpendicular to radius ✓
Note: 3 correctly worked out angles and no (or 1) reason award ✓✓✗

(b) a = 104° angle at centre ✓
b = 52° angle in same segment OR angle on same arc OR angle at centre ✓
For 2 correct angles and no reason award ✓✗

Section D: Statistics & Probability (25 marks)

28 (a) i $\text{Range}_A = 45$ }
$\text{Range}_B = 60$ } ✓ (need both correct)

ii $\text{Median}_A = 70$ ✓
$\text{Median}_B = 60.5$ ✓

iii

	Class A	Class B
LQ	65.5	46.5
UQ	79.5	75

Class A both correct ✓
Class B both correct ✓

(b) See graphs on answer sheet
A: ✓✓ } Consistent with statistics calculated
B: ✓✓ }
-1 for each error

(c) Averages (e.g. median) higher for Class A ✓
Spread smaller for Class A (IQR = 14 compared with 28.5) ✓

29

(a) Table drawn with correct numbers in the blank spaces:

	Can Swim	Can Not Swim	Total
Yr 9	**215**	85	300
Yr 10	269	31	300
Yr 11	293	**7**	**300**
Total	777	123	900

Must have all 3 values (215, 7, 300) ✓

(b)

i $\frac{777}{900} = \frac{259}{300}$ ✓ (0.863333…)

ii $\frac{85}{900} = \frac{17}{180}$ ✓ (0.09444…)

iii $\frac{123}{900} = \frac{41}{300}$ ✓ (0.13666…)

(c) $\frac{31}{123}$ ✓ (0.25203…)

30

(a) See answer sheet. Must have all labels and probabilities ✓

(b)

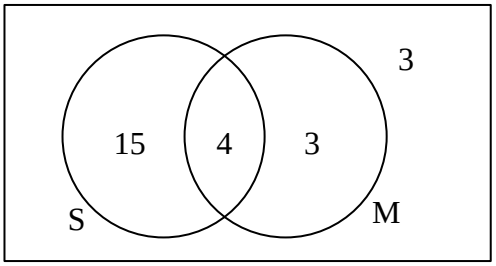
i $\frac{9}{49}$ ✓ (0.183673...)

ii $\frac{12}{49}$ ✓ (0.244897…)

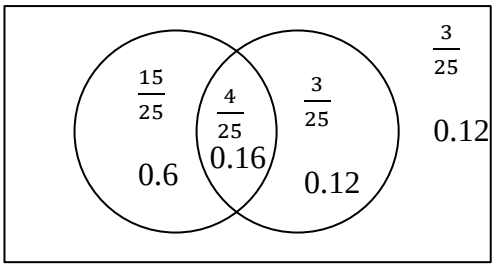
iii $\frac{24}{49}$ ✓ (0.489795….)

31

(a)



OR



✓

(b)

i $\frac{4}{25}$ ✓ (0.16)

ii $\frac{22}{25}$ ✓ (0.88)

iii $\frac{6}{25}$ ✓ (0.24)

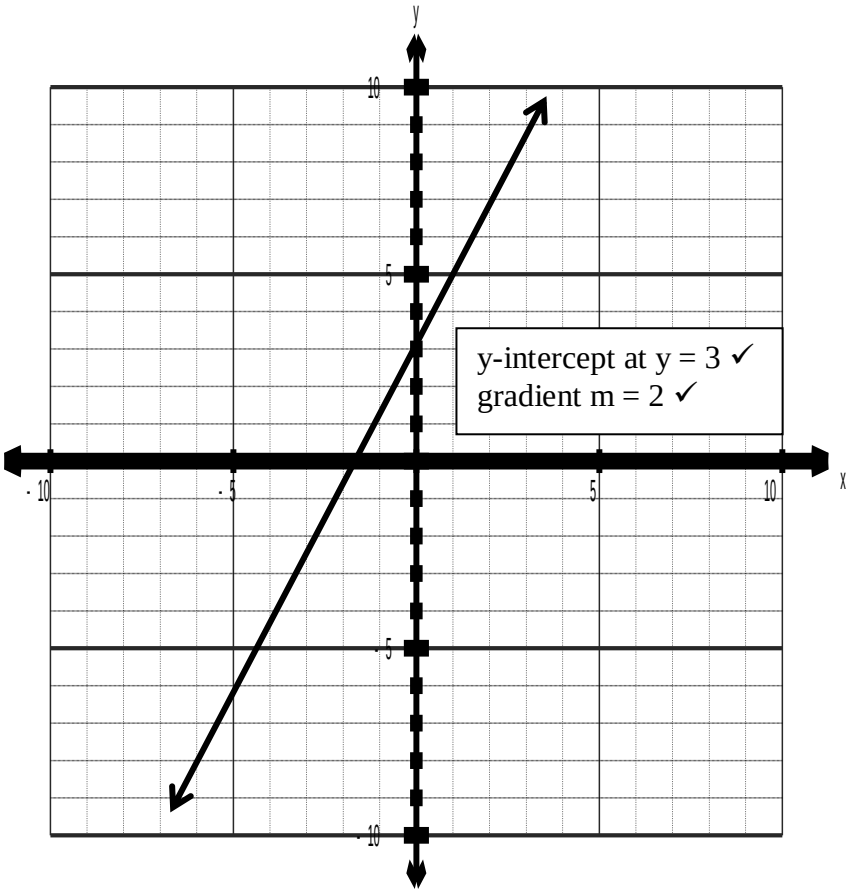
iv $\frac{3}{25}$ ✓ (0.12)

YEAR 10 COMMON TEST TERM 4 – ANSWER SHEET

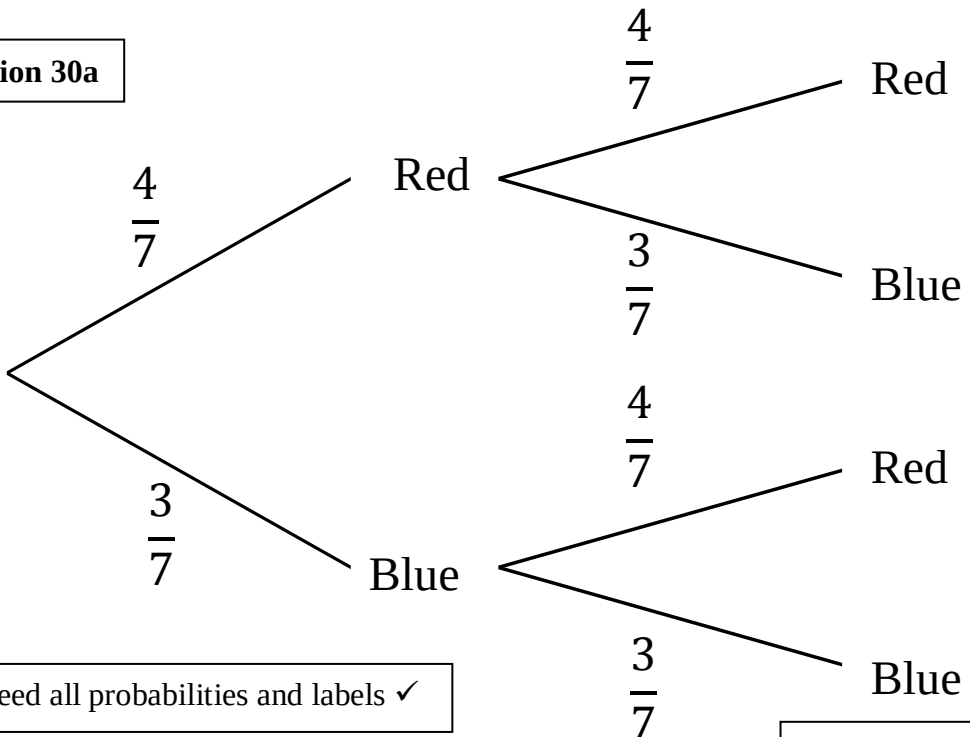
Please detach this sheet from the test paper and write your name and your maths teachers code in the spaces provided.

Name:_____ Teacher Code:_____

Question 8c



Question 30a



Need all probabilities and labels ✓

Please turn over for Question 28b

Class Marks

Question 28b