F3 MATHS MEMO
NOV 2017

1.1 A ✓
1.2 D ✓
1.3 B ✓
1.4 B ✓
1.5 C ✓
1.6 A ✓
1.7 C ✓
1.8 A ✓
1.9 D ✓
1.10 A ✓ (10)

2.1 $\frac{22}{100} \times 4999 = R1099,78$ ✓

$\therefore$ Price = R3899,22 ✓

OR

$\frac{78}{100} \times 4999 = R3899,22$ ✓ ✓ (2)

2.2 $A = 2500(1 + 0,075.3)$ ✓

$= R3062,50$ ✓ (2)

2.31 $\frac{15}{100} \times 14999 = R2249,85$ ✓ (1)

2.32 $A = 12749,15(1 + 0,18.2)$ ✓ ✓

$= R17338,844$ ✓

$\therefore \frac{17338,844}{24}$

$= R722,45$ pm ✓ (4)

2.33 $17338,84 - 12749,15$

$= R4559,69$ ✓ca (1)

(3.1) $4x^8$ ✓✓ (2)

(3.2) $8x^6 + 4x^6$ ✓✓
$= 12x^6$ ✓ (3)

(3.3) $(2x^2 + 8x - 3x - 12)(-x^2 + 3x)$ ✓✓✓
$= x^2 + 8x - 12$ ✓ (4)

(3.4) $\frac{2x(x-2)}{2x}$ ✓
$= x - 2$ ✓ (2)

(4.1) $5xy(y+2)$ ✓✓ (2)

(4.2) $3(x^4 - 1)$ ✓
$= 3(x^2 + 1)(x^2 - 1)$ ✓✓
$= 3(x^2 + 1)(x + 1)(x - 1)$ ✓ (4)

(5.1.1) $3x = 21$ ✓
$\therefore x = 7$ ✓ (2)

5.1.2 $5x - (4-x) = 2(x-3)$ ✓ ✓

$5x - 4 + x = 2x - 6$ ✓

$6x - 4 = 2x - 6$

$4x = -2$

$x = -\frac{1}{2}$ ✓ (4)

5.1.3 $(x - 12)(x + 1) = 0$ ✓ ✓ ca

$x = 12$ or -1 ✓ ca (4)

5.1.4 $4x - 3 \geq x + 6$

$3x \geq 9$ ✓

$x \geq 3$ ✓ (2)

5.2 Let x = my age

$S = 2x$

$B = 2x + 2$

$x + 2x + 2x + 2 = 32$ ✓ ✓ ✓

$5x + 2 = 32$

$5x = 30$

$x = 6$ ✓ (4)

I am 6 yrs old.

6.1.1 $(0; 2)$ ✓ (1)

6.1.2 $P = (3; -2)$ ✓ (1)

} -1 if not co-ords.

6.2 $m = \frac{-4}{3}$ ✓ (1)

6.3 $y = -\frac{4}{3}x + 2$ ✓ (1)

6.4 $x = 3$ ✓ (1)

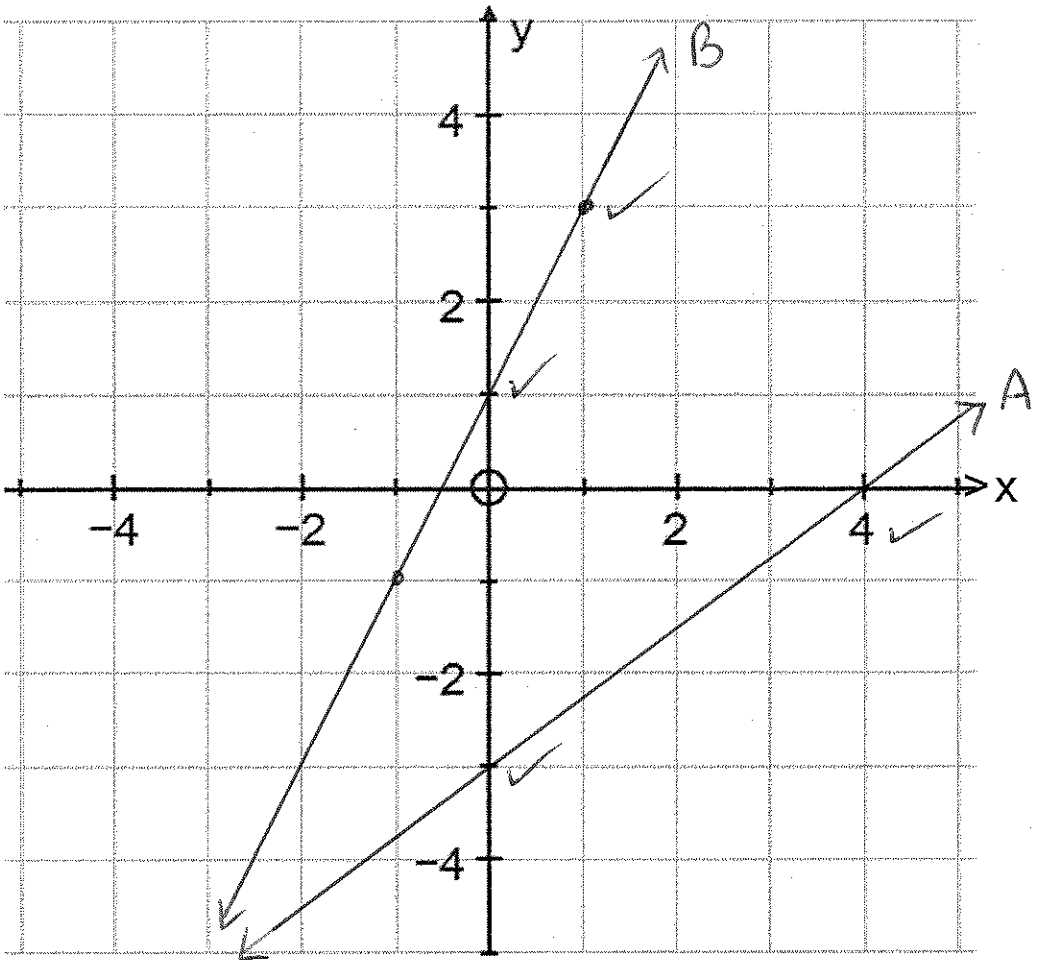
(4)

FORM 3 **MATHS ANSWER SHEET 2017**

NAME: memo **CLASS:**_____

MATHS TEACHERS NAME:_____

QUESTION 7.1



(4)

(7.2) $m = \frac{5+4}{2-5}$ ✓m

$= \frac{9}{-3}$

$= -3$ ✓

$y = -3x + c$

$5 = -3(2) + c$ ✓sub

$5 = -6 + c$

$11 = c$

$\therefore y = -3x + 11$ ✓a (4)

(8.1.1) F ✓

(8.1.2) C ✓

(8.1.3) A ✓

(8.1.4) H ✓

(8.1.5) D ✓ (5)

(8.2) $w = 52°$ ✓ isos $\triangle$ ✓

$x = 52°$ ✓ alt $\angle$'s AC // DE ✓

$y = 76°$ ✓ sum $\angle$'s $\triangle$ ✓

$z = 76°$ ✓ adj $\angle$'s st line ✓

} reasons vary according to chronological order (8)

(8.3) $E\hat{G}F = a + 35°$ ✓ diag of rhomb OR $H\hat{G}F = 2(a+35°)$

$\therefore 5a - 20° = 2(a+35°)$ ✓ opp $\angle$'s rhomb ✓

$5a - 20° = 2a + 70°$

$3a = 90°$

$a = 30°$ ✓ (4)

(9.1) RHS ✓ (1)

9.2.1 In $\triangle PQT$ and $\triangle SQR$

$\hat{Q}_1 = \hat{Q}_2$ vert opp $\angle$'s ✓

$PQ = QS$ given ✓

$Q = QR$ given ✓

$\therefore \triangle PQT \equiv \triangle SQR$ SAS ✓ (4)

9.2.2 $\hat{P} = \hat{S}$ corresponding $\angle$'s ✓

$\therefore PT \parallel RS$ alt $\angle$'s = ✓ (2)

9.3 $\triangle ABC \;|||\; \triangle EDF$ (AAA) ✓ ✓ order (2)

9.4 $\frac{a}{2} = \frac{14}{4}$ corr sides sim $\triangle$'s ✓ s/r

$\therefore a = 2 \cdot \frac{14}{4}$

$= \underline{7}$ ✓

$\frac{b}{12,25} = \frac{4}{14}$ ✓ corr sides sim $\triangle$'s.

$\therefore b = 12,25 \cdot \frac{4}{14}$

$= \underline{3,5}$ ✓ (4)

10.1.1 $Vol = 8.5 \cdot 4$ ✓

$= 160\ cm^3$ ✓ (2)

10.1.2 $SA = 2(8.5) + (16+10) \cdot 4$ ✓ any correct formula.

$= 80 + 104$ ✓ca correct ans.

$= \underline{184\ cm^2}$ ✓a (3)

10.2.1 $r = 5\text{ cm}$ ✓

$A = \pi \cdot 5^2$ ✓

$= 78,54\text{cm}^2$ ✓ (3)

10.2.2 $C = 2\pi 5$

$= 31,42\text{cm}$ ✓ (1)

10.23 $SA = 2 \times 78,54 + 31,42 \times 30$ ✓ca

$= 1099,68\text{cm}^2$ ✓a (2)

11.1 $149 - 101$

$= 48$ ✓ (1)

11.2 134 ✓ (1)

11.3 $LQ = 123$ ✓

$UQ = 134$ ✓ (2)

11.4 $IQR = 11$ ✓ (1)

12.1.1 (a) $P(BB) = \frac{7}{15}$ ✓ (1)

(b) 1 ✓ (1)

12.1.2 $\frac{4}{14} = \frac{2}{7}$ ✓ (1)

12.2.1 $P(B;B) = \frac{6}{28} \cdot \frac{5}{27}$ ✓

$= \frac{5}{126}$ ✓ (2)

12.2.2 $P(B \text{ and } D) = \frac{6}{28} \cdot \frac{22}{27}$ ✓ $+ \frac{22}{28} \cdot \frac{6}{27}$ ✓

$= \frac{22}{63}$ ✓ (3)