

GRADE 8 NOVEMBER 2017 MEMO

1.1	C		1A	
1.2	C		1A	
1.3	B		1A	
1.4	B		1A	
1.5	B		1A	
1.6	A		1A	
1.7	B		1A	
1.8	A		1A	
1.9	C		1A	
1.10	A	(10)	1A	
2.1.1	$16 = 2^4$	$56 = 2^3 \times 7$	(2)	2A
2.1.2	$LCM = 2^4 \times 7 = 112$		(1)	1A
2.2.1	$-12 - 2(-3) = -12 + 6 = -6$		(2)	1A +6 1A
2.2.2	$-1\frac{1}{2} + 2\frac{1}{7} = -\frac{3}{2} + \frac{15}{7}$ $= -\frac{21}{14} + \frac{30}{14}$ $= \frac{9}{14}$		(3)	1A improper 1CA equivalent 1CA (Answer only, 1 mark)
2.2.3	$-\frac{5}{8} \times \frac{1}{10} = -\frac{1}{16}$		(2)	1A negative 1A
2.2.4	$\frac{14}{4} \div \frac{21}{10} = \frac{14}{4} \times \frac{10}{21} = \frac{5}{3}$		(3)	1A change to \times 2A
2.2.5	$\sqrt{225 - 81} = \sqrt{144} = 12$		(2)	1A 144 1A
2.3.1	17 ; 21		(2)	2A
2.3.2	$T_n = 4n - 3$		(2)	2A
2.3.3	$4n - 3 = 233$ $4n = 236$ $n = 59$			1CA equating 1CA
			(2)	

3.1.1	3	(1)	1A
3.1.2	2	(1)	1A
3.1.3	1	(1)	1A
3.1.4	-3	(1)	1A
3.1.5	5	(1)	1A
3.2.1	$5a + 3a^2 + 4a - 5a^2 = 9a - 2a^2$	(2)	2A
3.2.2	$(3x^5)^2 = 9x^{10}$	(2)	2A
3.2.3	$\frac{6a^4 + 3a^3 - 15a^2}{3a^2} = 2a^2 + a - 5$	(3)	3A
3.2.4	$a^2 \times b \times a^3 \times b^4 = a^5 b^5$	(2)	2A
3.2.5	$-3x^2(4x^2 - 3x - 1) = -12x^4 + 9x^3 + 3x^2$	(3)	3A
3.2.6	$\sqrt{25x^6 - 16x^6} = \sqrt{9x^6} = 3x^3$	(3)	1A $9x^6$ 2A
3.3.1	$6x + 3 = 3x + 12$ $6x - 3x = 12 - 3$ $3x = 9$ $x = 3$	(3)	1A LHS 1A RHS 1CA
3.3.2	$\frac{x-2}{3} + 1 = 4$ ($\times 3$) $x - 2 + 3 = 12$ $x = 11$	(3)	1A $\times 3$ 1A 1CA
3.3.3	$2(x - 4) + 4 = 8$ $2x - 8 + 4 = 8$ $2x = 12$ $x = 6$	(4)	2A $2x - 8$ 1A 1CA
3.4	John: x Peter: $x + 3$ $x + x + 3 = 75$ $2x = 72$ $x = R36$	(3)	1A Peter's age 1A equation 1CA (Answer only: 1mark)
4.1.1	$x = 135^\circ$ (revolution)	(2)	1A 1R
4.1.2	$x = 70^\circ$ (\angle on str. line) $y = 50^\circ$ (alt. \angle 's PQ//SR) $z = 70^\circ$ (sum of \angle 's of Δ) or (corr. \angle 's PQ//SR)	(6)	1A 1R 1A 1R 1A 1R

4.1.3	$a = \frac{180^\circ - 92^\circ}{2} = 44^\circ$ <p>(sum \angle's of isos.Δ)</p> $b = 44^\circ$ <p>(isosΔ) or (sum \angle's of isos.Δ)</p> <p>(4)</p>	1A 1R 1A 1R
4.1.4	$x = 32^\circ$ (vert.opp \angle 's) $y = 58^\circ$ (\angle 's on str.line) or (compl. \angle 's)	1A 1R 1A 1R
4.2.1	$\hat{N}_1 = 30^\circ$ (compl. \angle 's) (2)	1A 1R
4.2.2	$\hat{P}_1 = 60^\circ$ (corr. \angle 's NO//PR) (2)	1A 1R
4.2.3	$\hat{P}_3 = 90^\circ$ (co-int. \angle 's NM//PQ) (2)	1A 1R
4.3	$2x + 66^\circ + x = 180^\circ$ (\angle 's on str.line) $3x = 114^\circ$ $x = 38^\circ$	Equation 1A 1R
4.4	$DE^2 = 7,5^2 = 56,25$ $EF^2 + DF^2 = 6^2 + 4,5^2 = 56,25$ $\therefore \Delta DEF$ is right angled with $\hat{F} = 90^\circ$ (conv. of Pyth.)	1A 1A 1R Must do LHS and RHS separately, or then.....-1
5.1.1	Mean = $\frac{862}{20} = 43,1$ (2)	1A 862 1CA
5.1.2	61 (1)	1A
5.1.3	44 (2)	2A
5.1.4	70 (2)	2A
5.1.5	$\frac{14}{20} \times 100 = 70\%$ (2)	2A
5.2.1	$\frac{6}{12} = \frac{1}{2}$ (2)	1A 1A simplified
5.2.2	$\frac{4}{12} = \frac{1}{3}$ (2)	1A 1A simplified
6.1.1	$AB^2 = 17^2 - 8^2$ (Pyth.) $= 225$ $AB = 15m$	1S 1R 1A
6.1.2	$P = AB + BC + AC$ $= 15 + 8 + 17$ $= 40cm$	2A
6.1.3	$A = \frac{1}{2} \times b \times h$ $= \frac{1}{2} \times 8 \times 15$ $= 60m^2$	2A

6.2.1	$V = l \times b \times h$ $= 24 \times 18 \times 20 \quad (2)$ $= 8640 \text{ cm}^3$	2A
6.2.2	$\text{T.S.A} = \text{perimeter}_{\text{base}} \times \text{Height} + 2\text{Area}$ $= [2(24) + 2(18)] \times 20 + 2(24 \times 18) \quad (3)$ $= 1680 + 864$ $= 2544 \text{ cm}^2$	2A 1A
6.3	$C_1 = \frac{2\pi r}{2} = \pi(42,5) = 133,518$ $C_2 = \frac{2\pi r}{2} = \pi(40) = 125,664 \quad (5)$ $\text{Length of curve} = C_1 + C_2$ $= 259,18$	1A circumf. 1A radius 1A radius 1A adding 1A