Higher Revision Answers

Date	Answers	notes
05/03 /11	168 = 2^3 x 3^2 x7; 180 = 2^2 x 3^2 x 5 HCF= 2^2 x3 =12; LCM= 2^3x3^2 x 5x7=2520	
7	A11: x=7,3,4,9 A14:b9,5,1 a156,9,5,6,6 with reasons like 2^n ends in a 6 when n is a multiple of 4	
8	3^7,10^{11}, 8^5 , 7^{12} , 4^8 , 3^3 , 5, 6^4, ; C17: $3^{2,}$ 3^{10},3^{12},3^8,3^{3n}. D4:2m^7, m^2/5, 2$m^{-4,}$ 2m^3/3, 3/2m^2 E8: 12,-5,-2,10,-1,0, 7,2	
9	C1:5, C2 ½, 2, 8/3, 2/9, 3/2 C3: 5/4, 4/5 C5: A, 0 T1: 23/60, 1 5/24, 1 1/40, 17/24 T2: ¼, 7/4, 2/7 T3: 5/3, 3/5, 21/20, 27/20 T4: 15/4, 2/9, 9/16, 24/25	
10	C3: x by 12 (or 24) so, 3(3x-5)+2(12-11x)=48 9x – 15 + 24– 22x = 48 9 – 13x = 48 9 – 48 = 13x -39 = 13x -3 = x A3: 4,4,60,84,80,0 E8:135^0 (x=29)	
11	T1a)empty hole at -1and arrow to the left b)empty hole at 4 to filled circle on -2, c)filled circle to the left from -2. T3: 4,5,6 T5 h>=1, y>1.5, u>=-1, x.-3/5, s<=11, s<3/5 T7: n>3/5 T9 1<x<=3 2<=x<8 0<w<4 T11: -1,0,1,2 y<-2 or y>2	
12,14 15,16		
17	A4 1.04, 0.93, 12%, 12.5% B5 3.5% increase	
18	A3: 40, A4: £24,£36; £48, £12; £10,£15,£35 A5: 4:1, 3.5:1, 0.8:1 A6: 15:8	
19	A: y=-6x-3 B: y=2x+1, C: y= 0.5x+1, D: y=x-6 E: y=0.5x-6 D3: a) y=2x+3, c) y=3x-3 e) y=10-x g) y=(1/6)x +5 I) y=0.4x -1 E1: 4, -1/4 G1a)1/2 b) y=(1/2) x+6 c) (0.6) G6 (ext) Use the method of G1 to help; use two pairs of data to establish the gradient. V= -1.2t +2000 b) rate of flow of oil in m/s c) 2000 litres d) 1856 litres	
21	D7: £12.60, 100km Q=5.5P^2 , b) Q=352 P=18	
22	F9: yx^2=250, y=2.5 F13: y is multiplied by 1.5 so Q is divided by 1.5 which is the same as multiplying by 2/3 ie a reduction of 33.333% T4: y=4, x= 1.44	
23	Make sure you can do all kinds of construction! Practice!	
24	T4: 3 rt 5 b) 5 T5: 2 rt 2 b) 1+ 2rt2 T7; 3rt2 b) 7rt 2 T8: 5/ rt 6 (multiply first frac. (top and bottom) by rt 6 to get (3 rt 6)/6 and add fractions with common denom of 6	
25	T2: a) 8.3,8.1 b) 11.75, 11.45 c) 2.15, 1.85 d) 16.7325, 15.9125 e) 0.7263..., 0.6907 T3: 29.25km, 1.6714km/min	
26, 28 29	Multiplying out brackets factorising Invent 5 pairs of brackets and multiply them out. Start with easy ones like (x+6)(x+2) and build up to (2x-3)(3x+4) and 9x^2 -16 etc. Come back tomorrow and factorise them. Set yourself 5 more for the 29th.	
30	T1: 1/16, 6,9 T2: 8, 1/3, T3: 8/343, T4: 5/3 T5: 0,-2,1/5,-4 T6: 8^4 = $(2^3)^4$ = 2^{12} T7b) x=2.4 to 1 dp	
31	A7; e/4, 1/6, 2$c^{2,}$ 1/v, 4/3, t^2/18, 2e/3, 5m/6 B7: 7/(2x-1) C5(4x+2)/ (2x+3)(2x-1)	
1st April	B3: 10x +5, 12x b) x=2.5	
02/04 /11	D2: 5,7,0 D3: -1.5 D8: 1.22, -1.22; 2.228, 10.772; c) -2.24or 2.24 d) -2.94 or 0.14 e) -3.47 or 4.47 f) -1 or 1 D13: 8 and 10	D2,D3, (D8,D13)

Spend 10 mins on each of these

4	a) It's satisfactory but fewer age groups may have been better. b) Age and meat are recorded separately so he can't tell if there is any link. c) 35% of under 30s never ate meat and 525 ate it 1-5 times a week. |Of the over 30s 6% never ate meat and 11% ate it 1-5 times. So young people tend to eat less meat.		
5	A5.a) (5,-2) (0,-5) (14,2) (-3,-10) ;b) (a+2, b-5) ;c) (a+s, b+t) B6 b) (4,2) (8,2) (8,6) (6,6) c) (1,1.5) (2, 0.5) (2, 1.5) (1.5,1.5) d) (6,3) (12,3) (12,9) (9,9) e) (-4,-2) (-8,-2) (-8,-6) (-6,-6)		
6	A9) In order: (1,3) (6,2) (-2, -3) (5,5) (-2,-4) A12) a) 180 rot, centre (3,2) DON'T FORGET THE WORD ROTATION (worth 1 mark) b) 180 rot centre (3,2) c) 90 rot anti-clockwise centre (0,0) d) 45 rot a-c centre (5,0) e) 180 rot centre (0,3) f) 90 rot cw centre (-1,0) A16 (6-a, 4-b)		
7	C3) £506.71 b) £1499.25 c) 32329.45 d) £436.40 C5) 2, 4, 12 years C11) 26.8% (1.02^{12}) c13) 156% (1.6^2)		
8	5) a)area, b) length, c) number d) Vol e) incon (7) length, area, length, area, e) number (no dimension) T5 D,C, n=2		
9	Changing the subject	298-303 (300-301)	14F
11	Simultaneous equations: algebraic	179-184 (167-169	7E :8, 7F, 8 Substitute back in to check
12	Simultaneous equations: linear, graphical	185,6 (164-166)	7D:3,4,5, 6f
13	Simultaneous equations: mixed	187 (449-452)	21J:4
14	Problems and simultaneous equations	347 (169-171)	7G:3
15	Rates of change Speed and density	54-60 (105-110)	5 I,J and K 5L: learn this formula
16	Solving quadratic equations	341 (428-430)	21A one of each
18	Solving quadratics by completing the square	342 (431-433)	21C: one from each
19	Recurring decimals/fractions	454,5 (468-471)	Read explanation and try some examples
20	sequences	365-368 (291-295)	14A: 11,12; 14B 3,4,6 14C: 3,4, 11,19
21	Shading regions	227-232 (171-173)	7H: 21
22, 23	Drawing quadratic graphs	257-259 (368.9)	18A: 14
25	Using a quadratic graph to solve	260-265 (374-375)	18E:7

	equations		
26	Cubic and other functions	276-278 (369-373)	18B:12,18C : 5; 18D8
27	More graphs	279-282 (574-575)	28E
28	Circles: segments and sectors	244-246 (444-446)	21H
29	loci	143 – 147 (144-145)	
30	Trig graphs	352-359, (283-289)	13I try a couple
2,3	Transformation of functions	416-418, 422-423 (Ch 24)	24H
4	Transformation of trig graphs	360-364 (502-503)	Try a few
5,6	trigonometry	18, 102-110 (267-279)	Learn them, be able to find a length or a side.
7	Pythagoras' Theorem (2D)	111-113 (175-180)	Make sure you try a few questions
9	Pythagoras' Theorem (3D)	475-482 (183-185)	ditto
10	substitution	269 (295-297)	14D try a few.
11	Angle subtended at centre..	287 (530-5320	You need to be able to use all these theorems and possibly prove them! Try a few from the exercise at the end of each theorem, and ex 26G, 26H
12	Angle in a semi-circle	288 (528-5290	
13	Angles in the same segment	289 (533-534)	
14	Opp. Angles of a cyclic quad Alternate segment theorem	290 (534-536) 292 (536-538)	
16	Volume and SA: prisms	96-8 (341-342)	The list of formulae you are given is on p 601. Learn all the others. Try one from each exercise.
	cylinder	247 (391-394)	
17	pyramid	249-251(394-396)	
	sphere	255 (397-398)	
18	More difficult shapes	253 (402-405)	A Frustrum may well come up!

19,20	Averages	61-66 (305-314)	Mean, median, mode and range.
21	Moving averages	67-69 (309-311)	15Bq1
23	Combinations of transformations	164-166 (137-139)	
24	Speed/distance-time graphs	NOT IN INTERACT!376-378	18G: 3,4,5
	Real-life graphs	378-382	18G:7,12
25	Circles: equations	441-442	
26	Sampling	207 -211 (74-77)	4D
27	Cumulative frequency graphs Box plots	148-155 (79-85 318-326 327-331)	Median and IQR. Be able to draw a cf table.4F q1;325:q5 330q6
28	Histograms	375-380 (Ch 27)	Remember frequency DENSITY
30	Scatter diagram with line of best fit	Not in interact. 85-92	Describe correlation 4H q1
	Frequency polygons	64-65 (77-78)	Plot midpoints; join with a ruler. 4E
1st June 11	Means and quartiles Drawing conclusions	152-155 (326-327) 331-333	Not covered well in the text book- use your old exercise bk or a revision guide. Choose 2 questions
2,3	Relative frequency	169 (194-196)	
	Probability rules	170-177 (188-194)	9B
	Tree diagrams	173-176 (198-199)	9E : choose 1
4	Standard form Congruency	118 – 127 (114-122) 430-435(46-51)	5R: 2,3,4

Your non-calculator paper is on Monday morning!*

Topics are now calculator based

6	Sine rule	465-468 (457-461)	22C: 3	
7	Cosine rule	469-471 (461-464)	22F	
7	Similarity	321-323 (51-56)	3F: 7b, 8	
8	Area of a triangle	472 (454-457)	22A:3,4,5	
8	Trial and improvement	278 A7c (375-376)	18F:7 or 10	
8	Solving quadratics by the formula	344-346 (433-437)	21D3e, 4	
9	Trig and pythag in 3D	477-481 (465-466)	22G	

*Due to lack of days I have left out vectors (ch 25) as we did them recently. Look them over if you can. They are likely to be non-calculator.

Remember your equipment: pen, sharp pencil, ruler, protractor, eraser, compasses (and calculator for paper 2).
Do you best and you will be fine!