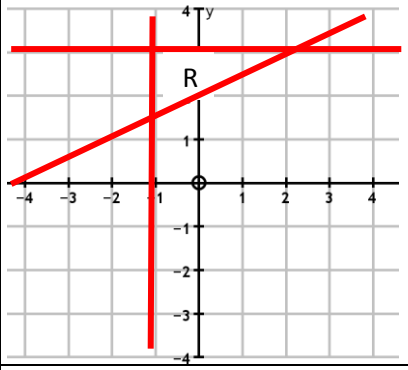
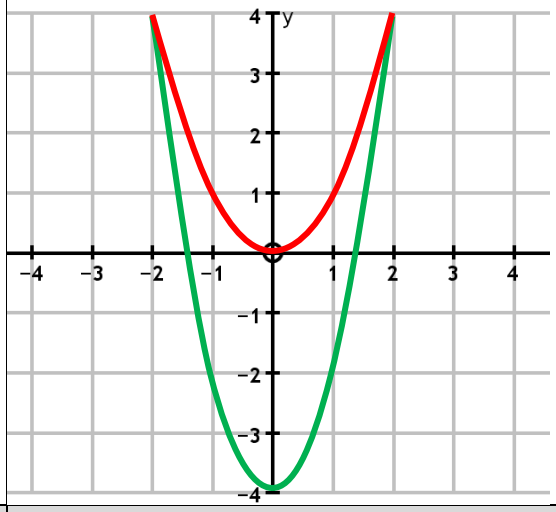
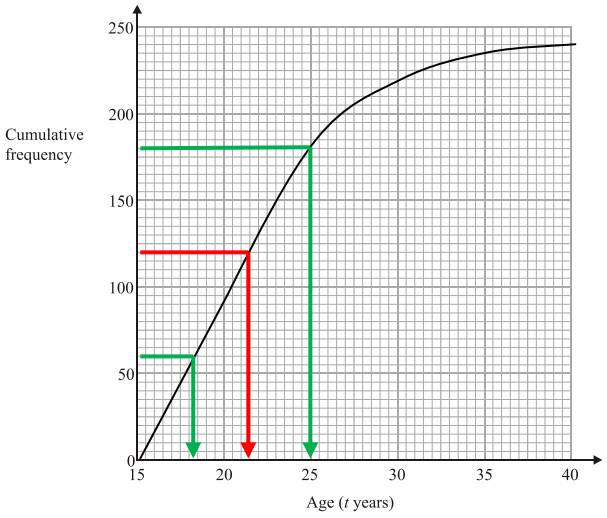
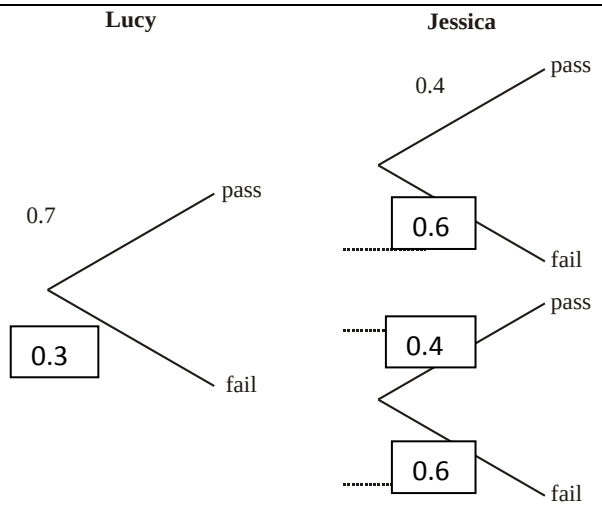
FFX 5-6 Maths Revision Answers

A	Numbers & the number system	Answer	Mark	Criteria
1(a)	$\frac{1}{15}$ as decimal	**1÷15 = 0.06**	1	1
1(b)	0.46666666... as fraction	Let x = 0.466666666... 10x = 4.666666666 100x = 46.66666666... 90x = 46 x = **42 = 7** **90 15**	1	1
B	**Calculating**		**Mark**	**Criteria**
2(a)	Height of 256m decreased by 25% after 5 bounces	256×0.75^5 = **60.75m**	1	2
2(b)	Increased by 20% to £264 Find original	£264 ÷ 1.20 = **£220**	1	
3(a)	a)(i) 0.00000561 in standard form	**5.61×10^{-6}**	1	3
	(ii) 9.3×10^7 as ordinary number	**93000000**	1	
	b) $(8 \times 10)^{-5} \times (3 \times 10^7$	**$=24 \times 10^2$** **2.4×10^3**	1	
C	**Algebra**		**Mark**	**Criteria**
4(a)	Factorise $2x^2 + 7x + 5$	**(2x + 5)(x + 1)**	1	4
4(b)	Factorise $x^2 - 169$	**(x + 13)(x – 13)**	1	
5(a)	Expand: $(3x - 5)^2$	(3x - 5)(3x - 5) $9x^2$ -15x – 15x + 25 **$9x^2$ -30x + 25**	1	5
5(b)	Expand: $(a- b)^2$	(a - b)(a - b) **$a^2 – 2ab + b^2$**	1	
5(c)	Solve $\frac{5(3y – 4)}{2y} = 7$	$\frac{5(3y – 4)}{2y} = 7$ 15y – 20 = 14y y – 20 = 0 **y = 20**	2	
6	Make 'x' the subject of: px + a = qx + b	px + a = qx + b px – qx = b – a $\frac{x(p – q)}{(p – q)} = \frac{b – a}{(p - q)}$ **x = b - a** **p - q**	1	6
7	$F = \frac{9C}{5} + 32$ Substitute: C = -20	$F = \frac{9C}{5} + 32$ $= \frac{9 \times -20}{5} + 32$ $= \frac{-180}{5} + 32$ = - 36 + 32 = **-4**	1	7

8	Region for: $y \le 4$; $y \ge \frac{1}{2}x + 2$; $x \ge -1$		2	8
9	Match graph with equation	Graph E ..... equation $y = \frac{7}{x}$ Graph C..... equation $y = \frac{1}{2}x^3$ Graph B..... equation $y = 3 - 2x$ Graph A ..... equation $y = \frac{x^2}{2}$ Graph D ..... equation $y = 5x - 3$	2 (-1 per error)	9
10	Sketch graph of $y = 2x^2 - 4$		2	11210
D	**Shape, Space and Measure**		**Mark**	**Criteria**
11(a) 11(b) Work out length AB Work out length BC	Are two triangles congruent Explain	YES SSS s. f. = $12 \div 8.4 = 1\frac{3}{7}$ or 1.428571429 AB = $5 \div 1\frac{3}{7}$ = **3.5cm** BC = $8.6 \div 1\frac{3}{7}$ = **6.02cm**	1 1 1	11
12(a) 12(b)	Calculate size of angle x using trigonometry (3sf) Calculate length of side AC using trigonometry (2dp)	$\tan x^0 = \frac{7}{10.2}$ x = **34.5^0** $\cos 54^0 = \frac{x}{11.8}$ $x = 11.8 \times \cos 54^0$ = **6.94m**	2 2	12

13	Indicate what the expression represents	$3xy + 5y^2$ A $5abc + 3a^2b$ V $b + 2h$ L $x(x + 2y)$ A $\frac{4}{3}\pi r^3$ V $4a^2$ A	2 (-1 per error)	13
E	**Data Handling**		**Mark**	**Criteria**
14(a)	Complete cf table	**Age (*t* years)** / **cf** $15 \le t < 20$ — 95 $15 \le t < 25$ — 185 $15 \le t < 30$ — 220 $15 \le t < 35$ — 235 $15 \le t < 40$ — 240	1	14
14(b)	Draw cf graph		1	
14(c)	Estimate median	Estimate for median = **21years**	1	
14(d)	Estimate interquartile range	Upper Quartile = 25 years Lower quartile = 18 years Interquartile range = 25 -18 cm = **7 years**	2	
15	Compare plane delays on Friday & Saturday	The average delay time was lower on Friday. The spread of times for delays was bigger on Saturday	1	15
16(a)	Probability of passing both parts of a driving test	0.8 x 0.6 **0.48**	1	16

15(b)	Probability of choosing a white or dark chocotate	0.3 + 0.25 **= 0.55**	1	
17(a)	Complete tree diagram		2	17
17(b)	Probability Lucy and Jessica pass the test	0.7 x 0.4 **= 0.28** **0.8 x 0.6** **= 0.48**	1	