



KING EDWARD VI
COMMUNITY COLLEGE

Year 11 Foundation Tier
Revision Materials
Booklet (1) - **Mark Scheme**

Year 11 Foundation PPE **Mark Scheme**

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Statistical Measures – Foundation Mark Scheme

Q	Answer	Mark	Comments
1(a)	'7' correctly circled	B1	
	'5' correctly circled	B2	B1 for $50 \div 10$ seen
1(c)	'9' correctly circled	B1	
1(d)	'5' correctly circled	B2	B1 for putting values in numerical order
2(a)	$\frac{7+4+2+2+5}{5}$ or $\frac{20}{5}$	M1	
	4	A1	
2(b)	Their $4+15$ or $95 \div 5$	M1	
	19	A1	
3(a)	$7+5+8+9+4 (=33)$	M1	Σ Labradors scores
	$(33 \div 5 =) 6.6$	A1	
	Labradors range = 5	B1	
	Conclusion using data making comparisons between the Alsations and Labradors mean and range with the information clearly set out	B2	e.g. Labradors have a higher mean score and a smaller range showing that they scored better on average and are more consistent which supports the hypothesis. B1 for a partial conclusion/clarity
3(b)	Two valid statements	B2	Larger sample size More samples Different training classes Or any valid suggestion

Collecting and representing data – Foundation Mark Scheme

Q	Answer	Mark	Comments
1	○ represents 10 members	B1	
	<div> <div>○ ○</div> <div>○ ○ ◐</div> </div>	B2	B1 either row correct or correct ft from their key
2(a)	Bar for Beth drawn up to 28 and bar for Cal drawn up to 22 with both correct width aligned correctly	B2	B1 correct bars with incorrect widths and/ or aligned incorrectly or two bars that total 50 or two bars with a difference of 6 or 28 and 22 seen
2(b)	27 seen	B1	
	their $27 \times (5 - 1.5(0))$ or 135 or 40.5(0)	M1	oe
	94.50	A1	94.5 scores B1M1A0
3(a)	4	B1	

3(b)	$(5 \times 0 +) 6 \times 1 + 4 \times 2 + 3 \times 3 + 1 \times 4 + 1 \times 5$ or $(0 +) 6 + 8 + 9 + 4 + 5$ or 32	M1	Allow one error or omission
	8	A1	
Q	Answer	Mark	Comments
4(a)	25	B1	
4(b)	Correct comparison of College A with one or more other colleges	B1	eg The number of students at A were the same as (the total) number in B, C and D Students in A were twice students in C Students in A were three times students in D
4(c)	$D = 60^\circ$ or $\frac{1}{6}$ or $1^\circ = 20$ or $10^\circ = 200$ or $B = 600$ or $C = 1800$ or $A = 3600$	B1	Allow $\pm 1^\circ$ This mark may not be seen but may be implied by other work
	$360 \div \text{their } 60 \times 1200$ or 6×1200 or 1800×4 or $600 + 1800 + 3600 (+ 1200)$ or $(600 + 1800 + 1200) \times 2$	M1	oe
	7200	A1	Accept integer in range [7322, 8471] if their angle is $\pm 1^\circ$

Probability (1) – Foundation

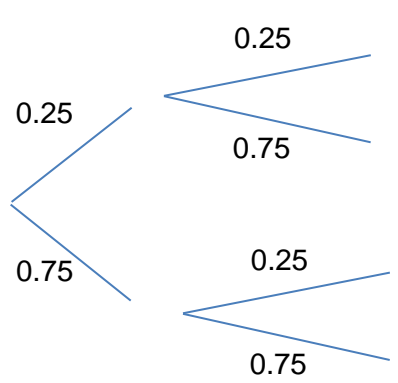
Mark Scheme

Q	Answer	Mark	Comments
1(a)	$12 \div 360$ seen or $\frac{12}{360}$ seen	M1	May be implied by eg 12 out of 360, 12 in 360, 1 out of 30, 1 in 30 Ratio is M0
	$\frac{1}{30}$	A1	
1(b)	$90 \div 360$ or $360 \div 90$ seen	M1	oe May be implied by 4 or $\frac{1}{4}$ seen. Ratio is M0
	4	A1	
2(a)	$\frac{3}{8}$	B1	oe
2(b)	$\frac{4}{8}$ or $\frac{1}{2}$	B1	oe
2(c)	$\frac{2}{8}$ or $\frac{1}{4}$	B1	oe
2(d)	$\frac{6}{8}$ or $\frac{3}{4}$	B1	oe
3	$40 \div 8 \times 3$ or 15	M1	oe
	$40 \div 5$ or 8	M1	
	$40 - 23$ or $40 - \text{their } 15 - \text{their } 8$ or 17	M1dep	
	$\frac{17}{40}$	A1	oe

Q	Answer	Mark	Comments
4(a)	8 seen	M1	
	$\frac{8}{30}$ or $\frac{4}{15}$	A1	oe
4(b)	2 + 5 + 4 or 12 – 1 or 11	M1	
	$\frac{11}{30}$	A1	oe
4(c)	5 + 3 or 8	M1	
	$\frac{8}{18}$	M1dep	
	$\frac{4}{9}$	A1	

Probability – Foundation

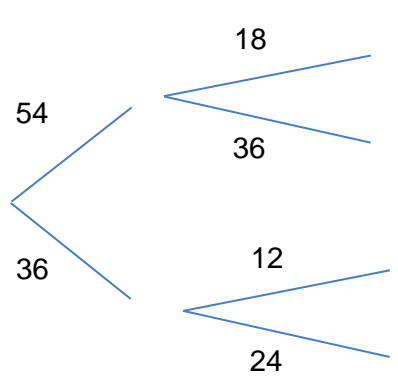
Mark Scheme

Q	Answer	Mark	Comments
1(a)		B2	oe B1 at least one pair of correct probabilities
1(b)	0.75×0.75	M1	oe may be on diagram
	$\frac{9}{16}$ or 0.5625	A1ft	ft their tree diagram
1(c)	$(0.25 \times 0.75) + (0.75 \times 0.25)$	M1	oe eg $2 \times 0.75 \times 0.25$
	$\frac{3}{8}$ or 0.375	A1ft	oe ft their tree diagram

Q	Answer	Mark	Comments
2(a)	$\frac{3}{10}$ seen for probability of red ball or $\frac{7}{10}$ for probability of blue	M1	oe
	$\frac{3}{10} \times \frac{3}{10}$	M1dep	their $\frac{3}{10}$ squared
	$\frac{9}{100}$	A1	
2(b)	$\left(\frac{3}{10} \times \frac{7}{10}\right) + \left(\frac{7}{10} \times \frac{3}{10}\right)$	M1	oe
	$\frac{21}{50}$	A1	
2(c)	Probability of red would change to $\frac{5}{19}$	B1	oe
3(a)	$1 - x$	B1	
3(b)	$(1 - x)y$	B1	oe
3(c)	xy or $x(1 - y)$ or $(1 - x)y$ seen	M1	oe
	$xy + x(1 - y) + (1 - x)y$	M1	
	$x + y - xy$	A1	

Probability – Foundation

Mark Scheme

Q	Answer	Mark	Comments
1(a)		B3	<p>B1 for 54 for boys and 36 for girls.</p> <p>B1 for one-third of their 54 and two thirds of their 54 or for one-third of their 36 and two thirds of their 36</p>
1(b)	$\frac{24}{90}$	B1	
	$\frac{4}{15}$	B1ft	ft their fraction in simplest form
2(a)	$45 + 30 + 20 + 25$ or 120	M1	oe
	$\frac{45}{120}$	A1	
2(b)	$\frac{49}{119}$	B1	

Q	Answer	Mark	Comments
3(a)	0.55 for pink	B1	oe
	$45 \div 3$ or 15 or $45 \div 3 \times 2$ or 30	M1	
	0.3 for yellow and 0.15 for blue	A1	oe
3(b)	Three branches in first set	M1	
	Three branches labelled with probabilities yellow 0.30, pink 0.55 and blue 0.15	A1ft	ft their (a)
	Two branches from yellow labelled 0.6 and 0.4 or two branches from pink labelled 0.3 and 0.7 or two branches from blue labelled 0.75 and 0.25	B1	
	Two of Two branches from yellow labelled 0.6 and 0.4 or two branches from pink labelled 0.3 and 0.7 or two branches from blue labelled 0.75 and 0.25	B1	

Ratio and Proportion - Foundation

Mark Scheme

Q	Answer	Mark	Comments
1(a)	$\frac{1}{5.5}$ or 2 : 9	M1	
	$\frac{2}{11}$	A1	oe fraction using integers
1(b)	Alternative method 1		
	$150 \times (1 + 4.5)$	M1	oe
	825	A1	
	Alternative method 2		
	$150 \div \text{their } \frac{2}{11}$ or $150 \div \text{their } \frac{1}{5.5}$	M1	where fraction in (a) has a numerator >1 where fraction in (a) has a numerator of 1
	825	A1ft	ft their (a)

Q	Answer	Mark	Comments
2	Alternative method 1		
	$2^2 : 7^2$ or $4 : 49$	M1	
	$36 \div 4 \times 49$ or 441	M1	oe eg $4 : 49$, $12 : 147$, $36 : 441$
	21 and -21	A1	Either answer scores M1M1A0
	Alternative method 2		
	$(\sqrt{36} =) 6$ or -6	M1	Accept either answer
	$6 \div 2 \times 7$ or 21 or $-6 \div 2 \times 7$ or -21	M1	oe eg $2 : 7$, $4 : 14$, $6 : 21$
	21 and -21	A1	Either answer scores M1M1A0
3	$192 \div 4$ or 48	M1	
	their 48×3 or $192 - \text{their } 48$ or 144	M1dep	$192 \div 4 \times 3$ scores M2
	their $144 \div (1 + 8)$ or 16 (green)	M1dep	oe eg $1 : 8$, $2 : 16$, $4 : 32$, $8 : 64$, $16 : 128$
	128	A1	
4(a)	$y = \frac{x}{5}$	B1	
4(b)	$5 + 1 : 5 - 1$	M1	
	$6 : 4 (= 3 : 2)$	A1	

Q	Answer	Mark	Comments
5	Alternative method 1		
	$630 \div 100 \times 125$ or 787.5	M1	oe Works out calories in 90 nuts
	their $787.5 \div 90$	M1dep	
	8.75	A1	oe Accept 9 with working
	Alternative method 2		
	$90 \div 125 \times 100$ or 72	M1	oe Nuts per 100 g
	$630 \div$ their 72	M1dep	
	8.75	A1	oe Accept 9 with working
6	2 parts \rightarrow 90	M1	oe
	$90 \div 2 \times 3$ or $90 \div 2 + 90$	M1	oe eg 45 : 135
	135	A1	

Perimeter and area (1) – Foundation Mark Scheme

Q	Answer	Mark	Comments
1	14×3 or 42	M1	oe
	their $42 \div 4$	M1	
	10.5	A1	
2	$12 - 8$ or 4 or $11 - 6$ or 5	M1	oe
	One correct relevant area 6×12 or 72 $8 \times$ their 5 or 40 $6 \times$ their 4 or 24 8×11 or 88 12×11 or 132 their $4 \times$ their 5 or 20	M1	oe
	A complete 'set' of areas that would combine to give total area 6×12 and $8 \times$ their 5 or $6 \times$ their 4 and 8×11 or 12×11 and their $4 \times$ their 5	M1dep	oe 72 (+) 40 or 24 (+) 88 or 132 (–) 20
	112	A1	

Q	Answer	Mark	Comments
3(a)	$(32 - 20) \div 2$ or 6 or $32 - 20$ or 12	M1	
	24 + their 6 + their 6 or 24 + their 12	M1dep	
	36	A1	
3(b)	Alternative method 1		
	their 36×32 or 1152 or 24×20 or 480	M1	
	their $36 \times 32 - 24 \times 20$	M1	$1152 - 480$
	672	A1	
	Alternative method 2		
	their 6×32 or 192 or their 6×24 or 144 or their 6×20 or 120 or their $6 \times$ their 36 or 216	M1	
	$(\text{their } 6 \times 32 + \text{their } 6 \times 24) \times 2$ or $(\text{their } 6 \times 20 + \text{their } 6 \times \text{their } 36) \times 2$	M1	$(192 + 144) \times 2$ or $(120 + 216) \times 2$
	672	A1	

Q	Answer	Mark	Comments
4	$0.5 \times 4 \times (5 + 11)$ or 32	M1	oe
	(their $32 \div 4$) = 3.2x or (their $32 \div 4$) \div 3.2	M1	oe
	2.5	A1	
5a	6	B1	
5b	8		
6	$4 \times (2.5 + 1.5 + 3)$	M1	oe
	28	A1	

Perimeter and Area (2) – Foundation Mark Scheme

Q	Answer	Mark	Comments
1a	24	A1	
1b	35	A1	
2	5a	A1	
3a	$\frac{1}{2}bh$ [oe]	A1	Condone use of multiplication symbol
3b	$ab + ab$ seen	M1	
	$2ab$	A1	Condone use of multiplication symbol
3c	d^2 seen for the square	B1	
	$2\pi(d/2)^2$ oe seen	B1	
	$d^2 + \pi d^2/2$ oe	A1	
4	$9(2+6)/2$ seen	M1	
	Trapezium area = 36	A1	
	Square side = 6	A1	
	Perimeter = 24	A1	

Volume – Foundation Mark Scheme

Q	Answer	Mark	Comments
1	metre	B1	
2	5^3 or 125	M1	
	$6.5 \times 3.5 \times 5.5$ or 125.125	M1	
	125 and 125.125 and correct conclusion	A1	
3	$\pi \times 4^2 \times 6$	M1	
	96π	A1	301.44 or 301.632 is M1AO
4	$\frac{1}{2} \times 5 \times 3$ or 7.5	M1	
	their 7.5×8	M1dep	
	60	A1	
5(a)	4^3	M1	
	64	A1	
5(b)	1.2 and 3.6	B1	
	Only two comparable sides (8 and 2) are needed to get the scale factor	B1	
6	Any side correctly identified, 3, 5 or 7	M1	
	All 3 sides correctly identified	M1dep	
	105	A1	

Q	Answer	Mark	Comments
7	$r^3 = \frac{3}{4} \times 36$	M1	oe
	$r = 3$	A1	

Measures – Foundation Mark Scheme

Q	Answer	Mark	Comments
1a	7 cm	B1	
1b	50 m ²	B1	
1c	2000 ml	B1	
2(a)	65.5	B1	Accept [65.49, 65.5]
2(b)	64.5	B1	
3(a)	150	B1	
3(b)	1 kg = 1000 g seen or implied	M1	1 200
	Correct scaling up to 1200 using one of the measurements shown on the scale.	A1	eg weigh 200g six times
4	Scale factor 100 ³ seen or implied	M1	1 000 000
	0.024	A1	
5	140	B1	
	their 140 × 5 ÷ 8	M1	oe
	87.5	A1ft	ft their 140

Q	Answer	Mark	Comments
6	8100 ÷ 60 or 8100 ÷ 60 ÷ 60	M1	
	135 or 2.25	A1	
	11:15 (am)	A1	
7	200 ÷ 40 or 5	M1	1.19 × 4.5 or 5.355
	their 5 × 4.5 or 22.5	M1dep	200 ÷ 40 or 5
	their 22.5 × 1.19 or 26.775	M1dep	their 5.355 × their 5 or 26.775
	26.78 or 26.80 or 27	A1	

Trigonometry – Foundation

Mark Scheme

Q	Answer	Mark	Comments
1	$\frac{2}{3}$	B1	
2	$\frac{5}{13}$	B1	
3(a)	14.7	B1	
3(b)	24	B1	
3(c)	27.2	B1	
4(a)	60	B1	
4(b)	30	B1	
4(c)	$\sqrt{2^2 - 1^2}$	M1	
	$\sqrt{3}$	A1	Accept 1.732...
4(d)	$5\sqrt{3}$	B1	Accept 8.66....
5	$32 \times \sin 28$	B1	
6	$\tan A = \frac{b}{a}$	B1	
7	$20 \times \tan 40$	M1	
	[16.78, 17]	A1	

Q	Answer	Mark	Comments
8	$36 \times \sin 56$	M1	
	[29.8, 30]	A1	
9	$12 \div \cos 26$	M1	
	[14.8, 15]	A1	
10	$\tan x = \frac{13}{20}$ or $\tan^{-1}\left(\frac{13}{20}\right)$	M1	
	[33, 33.02]	A1	

Basic algebra (1) – Foundation

Mark Scheme

Q	Answer	Mark	Comments
1	8	B1	
2	$100 - (4 + 3)^2$	B1	
3	$3 + 6^2 - 10 = 29$ $20 - (2 + 3)^2 = -5$ $15 - 54 \div 3^3 = 13$	B2	B1 for 2 correct
	Correct order $20 - (2 + 3)^2 = -5$ $15 - 54 \div 3^3 = 13$ $3 + 6^2 - 10 = 29$	B1ft	ft their answers
4(a)	$6a$	B1	
4(b)	$7bc$	B1	
4(c)	$12d^8$	B1	
4(d)	$\frac{5m^2}{8n}$	B1	
4(e)	$\frac{10n^2}{7m}$	B2	B1 for $20n^2$ or $14m$
5	$x + 20$	B1	
6	$87b$	B1	

Q	Answer	Mark	Comments
7	$2 \times 8 \times a \times a \times b$ and $32 \times a \times a \times a \div (2 \times a) \times b$	B2	B1 for 1 correct
8	Joshua = $A - 2$ Kiah = $2A - 4$	B1	oe
	$A + A - 2 + 2A - 4$	M1	ft their answers
	$4A - 6$	A1	

Basic algebra (2) – Foundation

Mark Scheme

Q	Answer	Mark	Comments
1	22	B1	
2	$(9 + 5) \div 2 \times 3 = 21$	B1	
3	$15f^3g^2$	B2	B1 for any two correct terms
4	Sunhil = $m - 80$ Akshay = $2m - 160$	B1	
	$m + m - 80 + 2m - 160$	M1	ft their answers
	$4m - 240$	A1	
5	$10a - 35$	B2	B1 for one term correct
6(a)	$2(3h + 6) = 6h + 12$	M1	
	$5(4h + 2) = 20h + 12$	M1	
	$26h + 24$	A1	
6(b)	$6(3j - 2) = 18j - 12$	M1	
	$-4(2j + 4) = -8j - 16$	M1	
	$10j - 28$	A1	
7	$4(2x - 3)$ or $6(x + 2)$	M1	M1 for oe
	$4(2x - 3) + 3(x + 2) + 3(x + 2)$	M1	oe
	$8x - 12 + 3x + 6 + 3x + 6$	M1	
	$14x$	A1	

Basic algebra (3) – Foundation

Mark Scheme

Q	Answer	Mark	Comments
1	60	B1	
2 (a)	$12d^2e$	B1	
2 (b)	$\frac{5q^3}{8h^2}$	B2	B1 for both correct terms seen
3	Double n to $2n$ 5 less than n to $n - 5$ n squared to n^2 Double n then add 1 to $2n + 1$ Add 1 then double the answer to $2(n + 1)$	B2	B1 if 3 or 4 correct
4	Liz = $3p$ Laura = $3p - 20$	B1	
	$p + 3p + 3p - 20$	M1	ft their answers
	$7p - 20$	A1	
5 (a)	$4(5a + 4)$	B1	
5 (b)	$15(2b - 3)$	B1	
5 (c)	$8c(2c^2 + 3)$	B2	B1 for correct partial factorisation
5 (d)	$9d^3e(2 - 3d^2)$	B2	B1 for correct partial factorisation

Basic algebra (4) – Foundation

Mark Scheme

Q	Answer	Mark	Comments
1	$3 + 16 - 4$	M1	
	15	A1	
2	$3 \times (4 + 2) \div (8 - 2) = 3$	B1	
3	He has said $a + a + a = 3a$ and $b + b = 2b$ then multiplied $4 \times 3a \times 2b$.	B1	oe
	$4 + 3a + 2b$	B1	
4	(Tuesday \Rightarrow) $m + 35$ (Wednesday \Rightarrow) $2m$	B1	
	$m + m + 35 + 2m$	M1	ft their answers
	$4m + 35$	A1	
5	$21a + 56$	B2	B1 for either $21a$ or 56
6 (a)	$20h + 28$ or $10h - 14$	M1	
	$20h + 28 + 10h - 14$	M1	
	$30h + 14$	A1ft	ft their answers if M1 awarded
6 (b)	$27k + 9$ or $-10k + 20$	M1	
	$27k + 9 - 10k + 20$	M1	
	$10k + 29$	A1ft	ft their answers if M1 awarded

Q	Answer	Mark	Comments
7	$2(3x - 2)$ or $2 \times 4(x + 1)$	M1	oe
	$2(3x - 2)$ and $2 \times 4(x + 1)$	M1	oe
	$2(3x - 2) + 2 \times 4(x + 1)$ or $6x - 4 + 8x + 8$	M1	
	$14x + 4$ or $2(7x + 2)$	A1	
8 (a)	$5(2x + 3)$	B1	
8 (b)	$6(6x - 8)$	B1	
8 (c)	$9x(3 + 5x^4)$	B2	B1 for correct partial factorisation
8 (d)	$11xy^2(4x^2 - 3y^2)$	B2	B1 for correct partial factorisation
9	$6(n - 5) = 42$ joined to equation $w = 7h + 30$ joined to formula $5(n - 6)$ joined to expression $4(n + 7) \equiv 4n + 28$ joined to identity	B2	B1 for 2 correct
10	-2, -1, 0, 1	B2	B1 for 3 correct and 0 incorrect or for 4 correct and 1 incorrect
11	$C = 3 + 1.20s$	B1	
12	$4(5x + 1) = 6(6x - 2)$	B1	oe

Basic algebra (5) – Foundation

Mark Scheme

Q	Answer	Mark	Comments
1	35	B1	
2	$6 + 3 \times 2$	B1	
3	$12a^2b^3$	B2	B1 for one error
4	(Electricity =) $G + 10$	B1	
	(Water =) $\frac{1}{2}(G + 10)$	B1ft	ft their electricity
	$12(G + G + 10 + \frac{1}{2}G + 5)$	M1	oe ft their answers
	$30G + 180$	A1	
5	$21a^2 - 63a$	B2	B1 for either $21a^2$ or $-63a$
6(a)	$14x + 21 + 24x + 36$	M2	M1 for either $14x + 21$ or $24x + 36$
	$38x + 57$	A1	FT their answers if M1 awarded
6(b)	$32y - 24 - 15y - 3$	M2	M1 for either $32y - 24$ or $-15y - 3$
	$17y - 27$	A1	Ft their answers if M1 awarded
7	$2 \times 4(f + 3)$ or $2 \times 5(f - 2)$	M1	oe
	$2 \times 4(f + 3)$ and $2 \times 5(f - 2)$	M1	oe
	$2 \times 4(f + 3) + 2 \times 5(f - 2)$ or $8f + 24 + 10f - 20$	M2	
	$18f + 4$ or $2(9f + 2)$	A1	

Q	Answer	Mark	Comments
8(a)	$9(3n - 4)$	B1	
8(b)	$12n(3n^2 - 5)$	B2	B1 for correct partial factorisation
8(c)	$10n^2m^2(3 - 5n)$	B2	B1 for correct partial factorisation
9(a)	Equation	B1	
9(b)	Identity	B1	
9(c)	Formula	B1	
10	$-8, -7, -6, -4, -3, -2$	B2	B1 for 5 correct and 0 incorrect or for 6 correct and 1 incorrect
11	$w = 300 + 15h$	B1	
12	Beefburger = $H + 20$ and Ice cream = $2H + 40$	B1	oe
	$H + H + 20 + 2H + 40 = 4H + 60$	M1	oe
	$280(4H + 60) = 72800$	A1	oe

Equations – Foundation

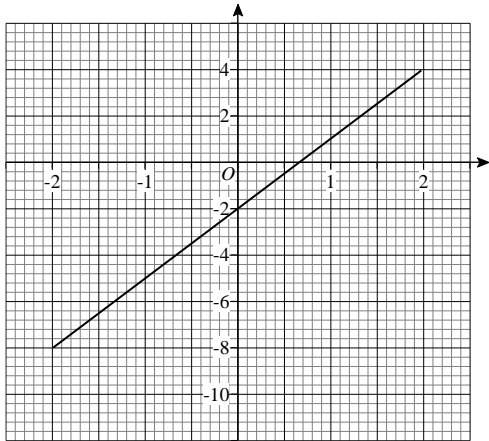
Mark Scheme

Q	Answer	Mark	Comments
1(a)	50	B1	
1(b)	$(2y =) 18 + 9$ or 27	M1	
	$\frac{27}{2}$ or $13\frac{1}{2}$ or 13.5	A1	
1(c)	$4w + 6w$ or $10w$ or $20 - 3$ or 23	M1	
	$10w = 23$	A1	
	$\frac{23}{10}$ or $2\frac{3}{10}$ or 2.3	A1ft	ft on one error
2(a)	34×2 or 68	M1	
	78	A1	SC2 for 88
2(b)	Alternative method 1		
	Any correct trial for £[1, 100]	M1	eg $2 \times 1 + 5 = 7$
	100	A1	
	Alternative method 2		
	Any correct trial for subtracting bonus and dividing by 2	M1	eg $220 - 10 = 210$ $210 \div 2 = 105$
	100	A1	
3	3	B1	
	6	B1	
	11	B1	

4	$x + 24$ or $24 \div 2$ or 12 or 59×2 or 118	M1	Tries two numbers with a difference of 24 or tries two numbers with a sum of 118
	$x + x + 24$ or $x + 12$ or $59 - 12$ or $59 + 12$ or $118 - 24$ or 94 or $118 + 24$ or 142	M1	oe Different trial
	$x + x + 24 = 118$ or $x + 12 = 59$ or $59 - 12$ and $59 + 12$ or their $94 \div 2$ or their $142 \div 2$	M1	oe 3 rd trial
	Gas = 47 Electricity = 71	A1	

Coordinates and linear graphs – Foundation Mark Scheme

Q	Answer	Mark	Comments
1(a)	$y = 2$	B1	
1(b)	$(3, -1)$	B1	
2(a)	$(-3, 2)$ correctly plotted	B1	
	$(1, -2)$ correctly plotted	B1	
2(b)	$(-3, -6)$ correctly plotted	B2	B1 any point plotted on $x = -3$ and $y = -6$ or $(1, 6)$ plotted
2(c)	isosceles and right-angled	B2	B1 both correct and 1 incorrect or 1 correct (and 1 incorrect)
3(a)	$(4, -1)$	B2	B1 $(x, -1)$ or $(4, y)$
3(b)	Two other points that satisfy $y + x = 3$ and are equidistant from $(1, 2)$ eg $(0, 3)$ and $(2, 1)$ or $(-1, 4)$ and $(3, 0)$	B2	B1 Two other points such that $y + x = 3$ or two points equidistant from $(1, 2)$ eg $(0, 3)$ and $(3, 0)$ or $(0, 2)$ and $(2, 2)$
4(a)	-5	B1	
	1	B1	

Q	Answer	Mark	Comments
4(b)	At least two points correctly plotted	M1	May be implied by a correct line
	Straight ruled line from -2 to 2 	A1	$\pm \frac{1}{2}$ square tolerance
5	Two points that satisfy $y = 12 - 5x$ eg $(0, 12)$ and $(1, 7)$	B2	B1 1 correct (and 1 incorrect)
6	$(5, 6.5)$	B2	B1 $(x, 6.5)$ or $(5, y)$

Algebra: Quadratics, Rearranging Formulae and Identities – Foundation

Mark Scheme

Q	Answer	Mark	Comments
1(a)	$2xy - 3y^3$	B2	o.e. B1 for one term correct, including correct sign OR B1 for both terms correct <u>but</u> signs incorrect.
1(b)	$x(8 + 3x)$	B1	
2(a)	a^9	B1	
2(b)	a^3	B1	
2(c)	a^{18}	B1	
3	$(x \pm 5)(x \pm 3)$	M1	Factorises with correct numbers
	$(x + 5)(x - 3)$	A1	
4	$y^2 - 3y + 4y - 12$	M1	Expands brackets to give four terms. Allow one error.
	$y^2 + y - 12$	A1	
5	$ax - cx = by - dy$	M1	Isolates x terms on one side of the formula
	$x(a - c) = by - dy$	M1	Factorises
	$x = \frac{by - dy}{a - c}$	A1	Divides by the bracket to get the answer oe

Solving quadratic equations – Foundation Mark Scheme

Q	Answer	Mark	Comments
1	$x^2 - 4x + 5x - 20$	M1	Condone one sign error
	$x^2 + x - 20$	A1	
2	$(x \pm a)(x \pm b)$ where $ab = 20$	M1	
	$(x + 10)(x + 2)$	A1	
3	$(x \pm a)(x \pm b)$ where $ab = -12$	M1	
	$(x + 6)(x - 2)$	A1	
	-6 and 2	A1ft	ft their brackets if M awarded
4	$(x + 5)(x - 5)$	B1	
5	$(x \pm a)(x \pm b)$ where $ab = 30$	M1	
	$(x - 5)(x - 6)$	A1	
	5 and 6	A1ft	ft their brackets if M awarded

6(a)	$(x + 1)(x + 6) = 66$	M1	
	$x^2 + 7x + 6 (= 66)$	A1	
	$x^2 + 7x - 60 = 0$	A1dep	dep on first A being awarded
6(b)	$(x \pm a)(x \pm b)$ where $ab = -60$	M1	
	$(x + 12)(x - 5)$	A1	

Indices - Foundation

Mark Scheme

Q	Answer	Mark	Comments
1	10 or 2^{10}	B1	
2	343	B1	
3(a)	0.2	B1	
3(b)	58.808 or 58.8 or 58.81	B1	
4	144	B1	
5(a)	11^{16}	B1	Accept 16
5(b)	2^{10}	B1	Accept 10
6	$64 + 27$	B1	
7	$11^2 + 14^2 = 317$ or $12^2 + 15^2 = 369$ $13^2 + 16^2 = 425$	M1	
	12 and 15	A1	
8	65	B1	
9	18	B1	
10	14	B1	

Q	Answer	Mark	Comments
11	16 or 9 or 25 seen	M1	
	5	A1	
12	10^3	B1	Accept 3
13	7	B1	
	-7	B1	
14	Yes ticked and odd \times odd = odd even \times even = even odd – even = odd and even – odd = odd	B2	B1 for Yes ticked and 2 examples shown to be true or B1 for Yes ticked and partial explanation

Standard form – Foundation

Mark Scheme

Q	Answer	Mark	Comments
1	Selects 5×10^3 and 2.8×10^5	B1	
	275 000	M1	oe May be implied by correct standard form Condone their largest – their smallest correctly evaluated
	2.75×10^5	A1ft	ft B0M1 converts their difference to standard form
2	2565.(...)	B1	oe May be implied by correct final answer
	2.6×10^3 or 3×10^3	B2ft	ft their answer converted to standard form and rounded to 2sf or 1sf B1ft Correct use of standard form $2.565... \times 10^3$ or Correct rounding to 2sf or 1sf 2600 or 3000 oe
3	0.000 006 2	B1	oe May be implied by correct final answer
	6.2×10^{-6}	B1ft	ft their answer converted to standard form
4	$(2.7 \times 10^{-2}) \div (3.4 \times 10^{-4})$	M1	oe $0.0270 \div 0.000\ 340$
	79.(...) or 80	A1	

Q	Answer	Mark	Comments
5	1×10^{-7}	B1	
6	3.2×10^7	B1	
7	0.000 004 12	B1	Condone any spacing
8	$5 \times 10^{-3} \times 5 \times 10^{-3}$ or 0.005×0.005 or 0.000 025	M1	oe
	2.5×10^{-5}	A1	
9(a)	E	B1	
9(b)	C	B1	
10	361 000 000 + 149 000 000	M1	oe Allow 361 million + 149 million
	510 000 000	A1	oe Allow 510 million
	$5.1(0) \times 10^8$	A1ft	ft their answer converted to standard form