

1	$30 \div 3.05 (= 9.8...)$		3	M1	oe, e.g. adding 9 lots of 3.05
	$30 - 9 \times 3.05$ oe			M1	
		2.55		A1	oe
Total 3 marks					

2	(a)	e.g. $(8.3 - 3.2) \div 3$		2	M1	for a complete method
			1.7		A1	
	(b)	$9.45 \div 7$		2	M1	
			1.35		A1	
Total 4 marks						

3	$5 \times 25 (= 125)$		4	M1	total number of balloons
	'125' $\div 32 (= 3.9...)$			M1	
	'125' $- (32 \times 3)$ or $125 - 96$ or $3\frac{29}{32}$			M1	
		29		A1	
Total 4 marks					

Alternative Mark Scheme for Q3

3	$5 \times 25 (= 125)$		4	M1	
	$32 \times 3 (= 96)$ or $32 \times 4 (= 128)$			M1	
	'125' $- (32 \times 3)$ or '125' $- 96$			M1	
		29		A1	
Total 4 marks					

4	$72 \div 3 (= 24)$ or $\frac{x}{68} = \frac{72}{3}$		4	M1	
	'24' $\times 68 (= 1632)$ or $(x =) \frac{72}{3} \times 68$ oe			M1	
	'1632' $\div 60 (= 27.2)$ or $30 \times 60 (= 1800)$ or '1632' $\div 3600 (= \frac{34}{75} = 0.453(333...))$			M1	
		Yes with correct figures		A1	Yes and 27.2 or (1632 and 1800) seen or Yes and 0.453 oe seen
Total 4 marks					

Alternative Mark Scheme for Q4 (calculation in minutes)

4	$72 \div 60 (= 1.2)$		4	M1	
	'1.2' $\div 3 (= 0.4)$			M1	
	$68 \times '0.4' (= 27.2)$			M1	
		Yes, with correct figures		A1	Yes and 27.2 seen
Total 4 marks					

5	$20 - 2.35 (= 17.65)$		3	M1	
	'17.65' $\div 0.74 (= 23.8...)$ or 24			M1	A clear attempt to subtract 0.74 23 times
		23		A1	
Total 3 marks					

6	$15 \times 60 \times 60 (= 54\,000)$ oe or $\frac{60}{12} \times 60 \times 15 (= 4500)$ oe or $5 \times \frac{60}{12} \times 60 (= 1500)$ oe		4	M1	M2 for $\frac{15 \times 60 \times 60 \times 5}{12}$ (= 22 500)
	'54000' $\div 12 \times 5 (= 22\,500)$ oe or '4500' $\times 5 (= 22\,500)$ oe or '1500' $\times 15 (= 22\,500)$ oe			M1	
	'22 500' $\times 0.002$ oe			M1	dep on M2 for a complete method
		45		A1	
Total 4 marks					

7	a	New York	1	B1	accept -15
	b	25	1	B1	accept -25
	c	-28	1	B1	
Total 3 marks					

8	a	$5 - 9$			M1
			-4	2	A1
	bi		4	1	B1
	bii	-7, -6, -5, -1, 0, 4, 4			M1 for writing the values in the correct order, condone one error or omission or for an answer of 0
			-1	2	A1
Total 5 marks					

9	(c)		2410	1	B1 accept -2410
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10	(d)	$(-35 - -101) \div 10 (= \pm 6.6)$ or $\pm 66 \div 10 (= \pm 6.6)$ or $(-35 - -101) \div 5$ or $\pm 66 \div 5$ or clearly showing counting down from -35 to -95 in 10's or 5's and indicating times by the side or from 35 to 95 in 10's or 5's and indicating times by the side with at most one error or $-95 = 12$ mins or $-100 = 13$ mins or $-105 = 14$ mins or a correct method to get 66 and one of $60 = 12$ mins or $65 = 13$ mins or $70 = 14$ mins or a correct method to get 66 and clearly showing counting up or down in 10's or 5's or an answer of 13 or 14 or 13.12		2	M1
			13.2		A1 for 13.2 or 13 minutes 12 seconds

11		$(3.7 + 6.1) \div 2$ oe or $6.1 - ((6.1 - 3.7) \div 2)$ oe or $3.7 + ((6.1 - 3.7) \div 2)$ oe		2	M1 Allow list of decimals from 3.7 to 6.1 showing a method to find halfway (eg crossing of each end to get to the middle) Allow one error in the list.
		<i>Working not required, so correct answer scores full marks (unless from obvious incorrect working)</i>	4.9		A1 oe
Total 2 marks					

12	(b)	$\frac{9.9 \times 10^6}{9.1 \times 10^5}$ oe		2	M1
		<i>Working not required, so correct answer scores full marks (unless from obvious incorrect working)</i>	11		A1 allow 10.8 – 11 (inclusive) SC: if M1 not scored, award B1 for an answer of $\frac{1}{11}$ allow 10.8 – 11 for the denominator

13	$5 \times 74 (= 370)$ or $6 \times 77 (= 462)$ or $5 \times 0.74 (= 3.7)$ or $6 \times 0.77 (= 4.62)$		3	M1	one correct product	M2 for $74 + (3 \times 6)$ oe or $77 + (3 \times 5)$ oe (where $3 = 77 - 74$)
	$6 \times 77 - 5 \times 74$ or “462” – “370” or $(6 \times 0.77 - 5 \times 0.74) \times 100$ or (“4.62” – “3.7”) $\times 100$			M1	from correct working	
	<i>Working not required, so correct answer scores full marks (unless from obvious incorrect working)</i>	92		A1	allow 92/100 or 92% or 92 out of 100 (trial and error scores no marks unless correct – and then it gains full marks)	
				Total 3 marks		

14	(a)	$65 \times 14 + 44$ oe eg $910 + 44$		2	M1	
		<i>Working not required, so correct answer scores full marks (unless from obvious incorrect working)</i>	954		A1	
	(b)	$750 - 44 (= 706)$		4	M1	
		$"706" \div (65 + 12.5) (= 9.109...)$			M1	dep or clearly adding at least 5 lots of $(65 + 12.5)$ (77.5, 155, 232.5, 310, 387.5, 465, 542.5, 620, 697.5)
		$"706" - "9" \times (65 + 12.5)$ oe eg $"706" - 697.5$			M1	For the sum of $(65 + 12.5)$ to the value under "706" with no more than one error and subtracting from "706"
		<i>Working not required, so correct answer scores full marks (unless from obvious incorrect working)</i>	8.5[0]		A1	
		Alternative method for (b)				Total 6 marks
		$750 \div (65 + 12.5)(=9.677...) \text{ oe}$		4	M1	
		$750 - "9" \times (65 + 12.5) (= 52.5) \text{ oe}$			M1	
		$52.5 - 44$			M1	
		<i>Working not required, so correct answer scores full marks (unless from obvious incorrect working)</i>	8.5[0]		A1	

15	E.g. $42 \div 3 (= 14)$ or $68 \div 8 (= 8.5)$ or $42 \times 3 (= 126)$ or $\frac{15}{8} \times 68 (= 127.5)$			M1	for a correct first step
	E.g. $9 \times '14' + 15 \times '8.5'$ oe or $'126' + '127.5'$			M1	for a complete method
		253.5	3	A1	
					Total 3 marks

16	(Berlin) $120 \div 1.16 (= 103.45)$		4	M1	
	(Dubai) $600 \times 0.24 \div 1.16 (= 124.14)$ oe or $144 \div 1.16$			M1	
	$"124.14" - "103.45"$			M1	dep on M2 Accept "103.45" – "124.14" or rounded/truncated values
		20.69		A1	allow 20.68 to 20.7(0)
					Total 4 marks

Alternative Mark Scheme for Q16

16	(Dubai =) $600 \times 0.24 (=144)$		4	M1	
	$"144" - 120 = 24$			M1	
	$"24" \div 1.16$			M1	dep on M2 for a fully correct method
		20.69		A1	allow 20.68 to 20.7(0)
					Total 4 marks

17	$x \times 1.05 = 1.26$ oe eg $(x =) 1.26 \div 1.05 (= 1.2)$	or $30 \times 1.26 (= 37.80)$	or $30 \div 1.05 (= 28.57)$		3	M1
	$30 \times "1.2"$	$"37.80" \div 1.05$	$"28.57..." \times 1.26$			M1
				36		A1 cao If no marks awarded, SC B1 for one operation used correctly, even with another incorrect operation. eg $1.26 \times 0.95 \times 30$ oe or $1.26 \times 1.05 \times 30$ oe or $1.26 \div 0.95 \times 30$ oe
						Total 3 marks

18	$(36 - 25) \times 7.45$ oe		3	M2	for a complete method
				(M1	for $36 - 25 (= 11)$ or for $W \times 7.45$ where W is their weight)
		81.95		A1	
					Total 3 marks

19		$438 \times 0.12 (= 52.56)$ or $44.39 \div 0.92 (= 48.25)$		4	M1
		$438 \times 0.12 (= 52.56)$ and $44.39 \div 0.92 (= 48.25)$ or $438 \times 0.12 (= 52.56)$ and “52.56” $\times 0.92 (=48.355)$ or $44.39 \div 0.92 (= 48.25)$ and “48.25” $\div 0.12 (= 402.083\dots)$ “52.56” – “48.25” or “48.355” – 44.39 = 3.965 and “3.965” $\div 0.92$ or $438 - “402.083\dots”(= 35.916\dots)$ and “35.916” $\times 0.12$			M1
					M1 Dep on M2
			4.31		A1
					Total 4 marks

20		add 489 to 13 203	2	B2	oe eg accept $489 + 13\ 203$ (B1 for sight of $489 \times 27 = 13\ 203$)
Total 2 marks					

21	(a)	$2.6 \times 40 + 30$ oe		2	M1
			134		A1 allow 2 h 14 mins
	(b)	$2 \times 60 + 40 (= 160)$ oe		3	M1 convert 2 hours 40 minutes to minutes
		$(“160” - 30) \div 40$ or $“130” \div 40$			M1 for a complete method
			3.25		A1 oe eg $3\frac{1}{4}$ or $\frac{13}{4}$ (Note: may see use of their part (a))
Total 5 marks					

22		$0.14 \times 350 (= 49)$ '49' + 25 or $0.14 \times 350 + 25$		3	M1
			74		M1
					A1
Total 3 marks					

23	eg $3 \times 2.45 (= 7.35)$ or $2 \times 6.2(0) (= 12.4(0))$ or $3 \times 2.45 + 2 \times 6.2(0) (= 19.75)$		4	M1	for working out the cost of the seeds or the compost or the seeds and the compost
	eg $34.35 - "7.35" - "12.40" (= 14.6(0))$ or $34.35 - "19.75" (= 14.6(0))$			M1	for working out the cost of the 4 plant pots
	$"14.60" \div 4$			M1	for a complete method to find the cost of one plant pot
		3.65		A1	If no other marks awarded, SCB2 for answer of 6.42 – 6.43 SCB1 for 25.7(0)
Total 4 marks					

24		2m written as 200 cm or 35 cm written as 0.35 m		3	B1 made be seen in workings
		$"200" \div 35$ or $2 \div "0.35" (= \frac{40}{7} \text{ or } 5.714...)$ or indication of 175 (cm) or 1.75 (m)			M1 or clearly adding on 35 or 0.35 at least 5 times with no more than one error or clearly subtracting 35 or 0.35 at least 5 times from 200 or 2 with no more than one error ft incorrect conversion but attempt must have been made to convert
			25		A1
					Total 3 marks

25	15 – 6.90 (= 8.10) or 1500 – 690 (= 810)		3	M1
	“8.10” ÷ 0.55 (= 14.727...) or “810” ÷ 55 (= 14.727...) or 15			M1
	<i>Correct answer scores full marks (unless from obvious incorrect working)</i>	14		A1
				Total 3 marks

26	(a)	$(T=) 2.5 \times 12 (+) 1.5 \times 5$		2	M1
		<i>Correct answer scores full marks (unless from obvious incorrect working)</i>	37.5		A1 Accept 38 with working shown
	(b)	$55 = 2.5d + 1.5 \times 8$ or $55 - 1.5 \times 8 (= 43)$ or $55 - 12 (= 43)$		3	M1 Form a correct equation or subtract time taken for bus stops from 55
		$2.5d = 55 - 1.5 \times 8$ oe or $2.5d = 43$ oe or $"43" \div 2.5$ oe			M1 Isolate term in d in a correct equation or a correct calculation for journey length
		<i>Correct answer scores full marks (unless from obvious incorrect working)</i>	17.2		A1
Total 5 marks					

27		$5 \times 1000 (= 5000)$ or $350 \div 1000 (= 0.35)$		4	M1
		$"5000" \div 350 (= 14.2857...)$ or $5 \div "0.35" (= 14.2857...)$ or 14			M1 Allow their 5000 or their 0.35
		$350 \times "14"$ or 4900 or $0.35 \times "14"$ or $"0.49"$ or $(14.28(57...) - 14) \times 100$			M1
		<i>Correct answer scores full marks (unless from obvious incorrect working)</i>	100 g or 0.1 kg		A1
Total 4 marks					

27 ALT		$5 \times 1000 (= 5000)$ or $350 \div 1000 (= 0.35)$		4	M1
		350, 700, 1050,, 4900 or 0.35, 0.7, 1.05,, 4.9			M1 for repeated addition to at least 4900 or 4.9 (allow one error) or for repeated subtraction to at least 100 or 0.1 (allow one error)
		350, 700, 1050,, 4900 or 0.35, 0.7, 1.05,, 4.9			M1 for repeated addition to 4900 or 4.9 (no errors) or clearly indicated e.g. at the end of their list, circled, underlined etc or for repeated subtraction to 100 or 0.1 (no errors) clearly indicated e.g. at the end of their list, circled, underlined etc
		<i>Correct answer scores full marks (unless from obvious incorrect working)</i>	100 g or 0.1 kg		A1
Total 4 marks					

28		$\frac{1}{4} \times 600 (= 150)$ oe or $\frac{3}{4} \times 600 (= 450)$ oe		4	M1
		$"450" \times 13.60 (= 6120)$			M1
		$(7200 - "6120") \div "150"$ or $1080 \div "150"$			M1
		<i>Correct answer scores full marks (unless from obvious incorrect working)</i>	7.2(0)		A1 SC B2 for 11.46(666...)
Total 4 marks					

29	(a)	$9.02 + 21.90$		2	M1
		<i>Correct answer scores full marks (unless from obvious incorrect working)</i>	30.92		A1
	(b)	$9.02 + 15.85 (= 24.87)$ or $33.89 - 9.02 (= 24.87)$ or $33.89 - 15.85 (= 18.04)$		3	M1 allow for one correct and any incorrect cost added and then the total subtracted from 33.89 or 9.02 or 15.85 subtracted from 33.89 after subtraction of an incorrect cost
		$33.89 - "24.87" (= 9.02)$ or $33.89 - 15.85 - 9.02 (= 9.02)$			M1 a fully correct method to find the cost of the 3rd parcel
		<i>Correct answer scores full marks (unless from obvious incorrect working)</i>	2		A1 cao must come from correct working eg 9.02 from clear method If no marks awarded, SCB1 for any 2 costs from table subtracted from 33.89
Total 5 marks					

30	(c)		29	1	B1
	(d)	$(61 - 5) \div 8$ oe or $5 + 8 + 8 + 8 + 8 + 8 + 8 + 8 = 61$ oe eg $13 + 8 + 8 + 8 + 8 + 8 + 8$ (allow one too few or one too many 8's if repeated addition used)		2	M1
		<i>Correct answer scores full marks (unless from obvious incorrect working)</i>	7		A1

31	(a)	$3 \times 25 + 30 + 42$ or $75 + 30 + 42$		2	M1
		<i>Correct answer scores full marks (unless from obvious incorrect working)</i>	147		A1
	(b)	$220 - 65 - 30 (= 125)$ or $220 - 95 (= 125)$		3	M1
		$"125" \div 25$ or $5 \times 25 (= 125)$			M1
		<i>Correct answer scores full marks (unless from obvious incorrect working)</i>	5		A1
					Total 5 marks

32		use of $1 \text{ m} = 100 \text{ cm}$ eg $7 \text{ m} = 700 \text{ cm}$ or $185 \text{ cm} = 1.85 \text{ m}$ or $370 \text{ cm} = 3.7 \text{ m}$		3	B1 for any correct conversion between metres and centimetres
		$"700" \div 2 \times 185 (= 330)$ or $7 - 2 \times "1.85" (= 3.3)$ oe			M1 use of their converted value for this method mark ie $"700"$ is their converted 7 m and $"1.85"$ is their converted 185 cm
		<i>Correct answer scores full marks (unless from obvious incorrect working)</i>	110		A1 allow 1.1 m or 1.1 metres
					Total 3 marks

33	(a)	$6 \times 2.2(0) (= 13.2(0))$ oe		2	M1 May be continued addition
		<i>Correct answer scores full marks (unless from obvious incorrect working)</i>	6.8(0)		A1
	(b)	$50 \div 0.85 (= 58.82\dots)$ or $58 \times 0.85 (= 49.3(0))$		2	M1 Allow continued addition if clearly adding at least 58 lots of 0.85 (allow one arithmetic error)
		<i>Correct answer scores full marks (unless from obvious incorrect working)</i>	58		A1 SCB1 if no other marks scored for 59 or 58.8...
					Total 4 marks