

(1) (Total 2 marks)

(1)

Q2. (a) Write down a sensible **metric** unit that can be used to measure

(i) the height of a tree,

(ii) the weight of a person.

.....

(2)

(b) Change 2 centimetres to millimetres.

..... millimetres

(1) (Total 3 marks)

Q3. Lynn lives in Baston. She is going to go to the cinema in Peterborough. She will travel by bus between Baston and Peterborough.

Here is part of the bus timetable from Bourne to Peterborough and from Peterborough to Bourne.

Bourne to Peterborough							
Bourne	15 00	15 30	16 00	16 30	17 00	17 30	18 30
Baston	15 12	15 42	16 12	16 42	17 12	17 42	18 42
Market Deeping	15 20	16 00	16 20	17 00	17 20	18 00	18 50
Northborough	15 24	16 04	16 24	17 04	17 24	18 04	18 54
Glinton	15 28	16 08	16 28	17 08	17 28	18 08	18 58
Peterborough	15 40	16 20	16 40	17 20	17 40	18 20	19 10

Peterborough to Bourne								
Peterborough	17 30	17 45	18 00	18 30	19 30	20 15	21 45	
Glinton	17 42	17 57	18 12	18 42	19 42	20 27	21 57	
Northborough	17 46	18 01	18 16	18 46	19 46	20 31	22 01	
Market Deeping	17 50	18 05	18 20	18 50	19 50	20 35	22 05	
Baston	18 05	18 10	18 35	19 05	19 55	20 50	22 10	
Bourne	18 17	18 22	18 47	19 15	20 05	21 00	22 20	

It takes Lynn 30 minutes to walk between the bus station in Peterborough and the cinema. The latest bus she can catch home leaves Peterborough at 21 45

Lynn wants to watch a film called Sherlock Holmes.

Sherlock Holmes

Running time: 2 hours 14 minutes Starts at: 4:15 pm, 5:15 pm, 7:10 pm

The film lasts for 2 hours 14 minutes.

Plan a schedule for Lynn's visit to the cinema.

Schedule	Time
Bus leaves Baston	
Bus arrives Peterborough	
Film starts	
Bus leaves Peterborough	
Bus arrives Baston	

(Total 5 marks)

Q4. (a) How many minutes are there between 8.50 pm and 10.05 pm?

..... minutes

(1)

(b) (i) Write 15 25 using the 12-hour clock.

.....

(ii) Write 9.15 pm using the 24-hour clock.

.....

Lucy and Saad went to a cafe on the same day.

Lucy was in the cafe from 10.15 am to 10.45 am. Saad was in the cafe from 10.25 am to 11.05 am.

(c) Work out the number of minutes that Lucy and Saad were in the cafe at the same time.

..... minutes

(2) (Total 5 marks)

Q5. Jemilla goes swimming.

She swims 64 lengths of a swimming pool.

Each length is 25 m long.

(a) Work out how far Jemilla swims.

Give your answer in kilometres.

..... kilometres

(3)

The swimming pool is 25 m long by 10 m wide by 2.5 m deep.

(b) How many litres of water does it contain?

.....*l*

(3) (Total 6 marks)



.....

(1)

(b) Which line is perpendicular to the line *CD*?

.....

(1)

(c) Measure the length of the line AC.



Q7. This is part of a list of TV programmes for one evening.



18 00	Tikkabilla
18 30	Teletubbies
19 00	Lunar Jim
1910	Kerwhizz
19 35	Lazy Town
20 00	ChuckleVision
2015	Arthur
20 30	Richard Hammond's Blast Lab

(a) Which TV programme lasts for 10 minutes?

.....

(1)

Brian turned on his TV set at 19 40

(b) How many minutes did Brian have to wait for the start of Arthur?

..... minutes

(1)

Richard Hammond's Blast Lab lasts for 45 minutes.

(c) At what time did Richard Hammond's Blast Lab end?

.....

(1) (Total 3 marks)

Q8. Mandy lives in Weymouth. She is planning a shopping trip to Bournemouth. She will travel by train.

Here is part of the train timetable from Weymouth to Southampton and from Southampton to Weymouth.

Weymouth to Southampton							
Weymouth	0903	1003	1103	1203	1303		
Dorchester	0913	1013	1113	1213	1313		
Poole	0940	1040	1140	1240	1340		
Bournemouth	0953	1053	1153	1253	1353		
Brockenhurst	1020	1120	1220	1320	1420		
Southampton	1026	1126	1226	1326	1426		

Southampton to Weymouth						
Southampton	1224	1324	1424	1524	1624	

Brockenhurst	1237	1337	1437	1537	1637
Bournemouth	1300	1400	1500	1600	1700
Poole	1335	1435	1535	1635	1735
Dorchester	1344	1444	1544	1644	1744
Weymouth	1355	1455	1555	1655	1755

It takes Mandy 25 minutes to walk from home to the train station at Weymouth. She wants to be in Bournemouth for 3 hours.

Plan a schedule for Mandy's shopping trip.

	Time
Mandy leaves home	
Train departs Weymouth	
Train arrives Bournemouth	
Train leaves Bournemouth (Mandy comes home)	
Train arrives Weymouth	
Mandy arrives home	

(Total 5 marks)

Q9.



The picture shows a man standing next to a flagpole. The man is of normal height. The man and the flagpole are drawn to the same scale.

(a) Write down an estimate for the height, in metres, of the man.

..... m

(1)

(b) Work out an estimate for the height, in metres, of the flagpole.

..... m

(2) (Total 3 marks)

Q10. (a) Complete the table by writing a sensible **metric** unit for each measurement. The first one has been done for you.

The length of the river Nile	6700kilometres
The height of the world's tallest tree	110
The weight of a chicken's egg	70
The amount of petrol in a full petrol tank of a car	40

(3)

(1)

- (b) Change 4 metres to centimetres.
- (c) Change 1500 grams to kilograms.

..... kg

..... cm

(1) (Total 5 marks)

Q11.

A _			_ <i>B</i>
	(a)	Measure the length of the line <i>AB</i> . Give the units with your answer.	

(b) On the diagram, mark with a cross (\times) the midpoint of the line *AB*.

Q12. A blue stick is 1.42 metres long. A red stick is 3 centimetres shorter than the blue stick.

Work out the length of the red stick. Give your answer in metres.

..... m

(Total 2 marks)

Q13.



The diagram shows a building and a man. The man is of normal height. The man and the building are drawn to the same scale.

(a) Write down an estimate for the height of the man.

.....

(1)

(b) Write down an estimate for the height of the building.

.....

(2) (Total 3 marks)

Q14.



(a) Write down the weight in kg shown on this scale.

..... kg

(1)

(b) (i) How many pounds are there in 1 kg?

..... pounds

(1)

The weight of a baby is 5 kg.

(ii) Change 5 kg to pounds.

..... pounds

(1) (Total 3 marks)

(1)

Q15.







(1)

(1)

Q17. Measure the length of the line AB. (a) Give your answer in centimetres.

			-	
1		,	к.	
27	1		~	

..... cm

Mark the midpoint of the line AB with a cross (×). (b)

In the space below, draw accurately a circle of radius 4 cm. (c) Use the point C as the centre of your circle.



(Total 3 marks)



(1)



Q19. (a) Measure, in centimetres, the length of the line AB.

..... cm

(b) Mark the midpoint of the line AB with a cross (\mathbf{X})	-
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(1) (Total 2 marks)

Q20.	(a)	Write three pounds fifty pence in figures.	
		£	(1)
(b)	Writ	te three pounds five pence in figures.	
		£	(1)
(c)	Write	te three thousand five hundred and ten pounds in figures.	
		£	(1) (Total 3 marks)

Q21.



The diagram shows the speed of a car.

(a) Write down the speed of the car.

..... miles per hour

The scale below shows the amount of fuel in a tank.



(b) Write down the amount of fuel in the tank.

..... gallons

(1)

(1)

When the tank is full, there are 7 gallons of fuel in the tank.

(c) Work out how much more fuel has to be added to the tank to fill it completely.

..... gallons

(1) (Total 3 marks)

Shotton	07 30	08 00	09 00	10 00	11 00
Crook	07 45	08 15	09 15	10 15	11 15
Prudhoe	07 58	08 28	09 28	10 28	11 28
Hexham	08 15	08 45	09 45	10 45	11 45
Alton	08 30	09 00	10 00	11 00	12 00

Q22. The table shows part of a bus timetable from Shotton to Alton.

A bus leaves Shotton at 07 30

(a) What time should it arrive at Alton?

.....

(1)

Another bus leaves Prudhoe at 08 28

(b) How many minutes should it take to get to Hexham?

..... minutes

(1)

Serena lives in Crook. She has to be in Hexham by quarter past 11

(c) What is the time of the latest bus she can catch from Crook to arrive in Hexham by quarter past 11?

.....

Q23. Here is a point P marked with a cross (**×**).

 $P \mathbf{x}$

(a) Draw a line 7 cm long. Start from the point *P*.

(1)

(b) On your line, mark with a cross (\times) the point which is 3 cm from *P*. Label this point *Q*.

(1) (Total 2 marks)

M1.

	Answer	Mark	Additional Guidance
(a)	29	1	B1 for 29 cao
(b)	arrow	1	B1 for arrow in correct position ± ½ division
			Total for Question: 2 marks

M2.

	Working	Answer	Mark	Additional Guidance
(a)(i)		metre	2 1	B1 for metre or m
(ii)		kilogram		B1 for kilogram or kg or Newton or N
(b)	2 × 10	20		B1 for 20 cao
				Total for Question: 3 marks

M3.

Answer Mark Additional Guidance

e.g. 15 12 15 40 4:15pm 19 30 19 55	5	 B1 for a correct departure time (one with an associated arrival time at least 30 mins before film start time) B1 for correct associated arrival time in Peterborough from a correct departure time from Bourne or Baston B1 for either 4:15pm or 5:15pm with one correct bus time) B1 for a correct departure time (at least 2hrs 44mins after film start time) B1 for correct associated arrival time in Baston
		Total for Question: 5 marks

M4.

	Working	Answer	Mark	Additional Guidance
(a)	10 + 60 + 5	75	1	B1 (accept 1 hour 15 minutes or 1.25 hours or 1¼ hours with units)
(b)(i)		3.25 pm	2	B1 for 3.25 pm oe [accept 3.25 only and 03.25 pm but do not accept 3.25 am or 03.25]
(ii)		21 15		B1 for 21 15 (ignore am or pm written)
(c)	10.45 – 10.25 OR 10.25 + 5 + 10 + 5	20	2	M1 for an attempt to find the time difference between 10.25 and 10.45 A1 cao
	•		-	Total for Question: 5 marks

M5.

		Working	Answer	Mark	Additional Guidance
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	023 ^ 1000			$1m^3 \text{ or } 1m^3 = 1000/$
	625 × 1000			M1 for attempt to find the number of <i>l</i> in
(b)	Vol = 25 × 10 × 2.5= 625m³	625 000	3	M1 for attempt at finding the volume
				A1 cao
	4800 ÷ 1000			M1 for "64 × 75" ÷ 1000
(a)	64 × 75m = 4800m	4.8 km	3	M1 for 64 × 75

M6.

	Working	Answer	Mark	Additional Guidance
(a)		Trapezium	1	B1 cao
(b)		AC	1	B1 cao
(c)		4.5cm or 45mm	1	B1 for B1 cao
(d)		56.3°	1	B1 for an angle in the range 55 to 58 inc.
				Total for Question: 4 marks

M7.

Working Answer Mark Additional Guidance

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(a)		Lunar Jim	1	B1 cao
(b)	20 15 – 19 40 = 20 + 15	35	1	В1 сао
(c)	20 30 + 45 = 21 00 + 15	21 15	1	B1 cao
				Total for Question: 3 marks

M8.

	Working	Answer	Mark	Additional Guidance
FE	e.g. 0903 – 25 minutes = 0838 0903 0953 0953 + 3 hours = 1253 1300 1355 1355 + 25 minutes = 1420	e.g. 0838 0903 0953 1300 1355 1420	5	 B1 for a correct time 25 minutes (or more) before the train departs e.g. 0838, 0938 or earlier B1 for a correct departure time, e.g. 0903, 1003 with the associated correct arrival time 0953, 1053 B1 for a correct departure time (3 hours after arrival) e.g. 1300, 1400 B1 for a correct arrival time corresponding to the departure time, e.g. 1355, 1455 B1 for a correct arrival time at home, e.g. 1420, 1520
				Total for Question: 5 marks

M9.

WorkingAnswerMarkAdditional Guidance		Working	Answer	Mark	Additional Guidance
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(a)		1.5-2.0	1	B1 for height 1.5-2.0 inclusive
(b)	Height × 4	6-8	2	M1 for ×4 or "height" × 4 A1 6-8 inclusive OR ft (a) × 4
				Total for Question: 3 marks

M10.

	Working	Answer	Mark	Additional Guidance
(a)		metres (m) grams (g) litres (l)	3	B3 all correct, accept abbreviations (B1 for each one correct)
(b)	4 × 100	400	1	B1 for 400 cao
(c)	1500 ÷ 1000	1.5	1	B1 for 1.5 cao
				Total for Question: 5 marks

M11.

	Answer	Mark	Additional Guidance
(a)	8 cm or 80mm	2	³ B1 for 7.8 − 8.2 or 78 − 82 or 3 − 3 ¹⁶
(b)	Midpoint	1	B1 for appropriate unit cm or mm or inches B1 for midpoint marked ± 2mm
			Total for Question: 3 marks

M12.

Working	Answer	Mark	Additional Guidance
1.42 – 0.03	1.39	2	M1 for sight of 142 – 3 or 1.42 – 0.03 or 1420 – 30 A1 cao
			Total for Question: 2 marks

M13.

	Working	Answer	Mark	Additional Guidance
(a)		$1.5 \rightarrow 2.2$ metres	1	B1 for 1.5m \rightarrow 2.2m oe or 4ft 10 inches \rightarrow 7ft oe
(b)	3 × (a) → 5 × (a)	4.5 m → 11 m	2	M1 for $3 \times (a) \rightarrow 5 \times (a)$ (units not needed but cannot be contradictory) A1 cao for $4.5m \rightarrow 11m$ oe or $14\frac{1}{2}$ ft $\rightarrow 35$ ft oe (units needed) Note: $5m = 500$ cm = 196.85 inches = 16.4 ft
				Total for Question: 3 marks

M14.

	Answer	Mark	Additional Guidance
(a)	4.6	1	B1 cao
(b)(i)	$2 \rightarrow 2.4$	2	B1 for $2 \rightarrow 2.4$
(ii)	10 → 12		B1 for $10 \rightarrow 12$ or $5 \times (i)$ ft
		-	Total for Question: 3 marks

M15.

	Answer	Mark	Additional Guidance
(a)	32	1	B1 cao
(b)	127 marked	1	B1 cao
(c)	4.4	1	B1 cao
(d)	3.18 marked	1	B1 cao
			Total for Question: 4 marks

M16.

	Answer	Mark	Additional Guidance
(a)(i)	Kilometres	2	B1 (accept km)

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(ii)	Litres		B1 for litres, (accept kilolitres, m³ or appropriate abbreviations)
(b)(i)	50	2	B1 cao
(ii)	4		В1 сао
			Total for Question: 4 marks

M17.

	Answer	Mark	Additional Guidance
(a)	7	1	B1 for 7 ± 2mm
(b)		1	B1 for correct position ± 2mm
(c)		1	B1 for all parts within ± 2mm, use overlay
			Total for Question: 3 marks

M18.

	Answer	Mark	Additional Guidance
(a)	33	1	B1 for 33 cao
(b)	180	1	B1 for 180 cao
(c)	110 marked	1	B1 for 110 marked cao
(d)	0.27 marked	1	B1 for 0.27 marked cao

Total for Question: 4 marks

M19.

	Answer	Mark	Additional Guidance
(a)	6.4	1	B1 for 6.2 – 6.6 inclusive; accept 62-66 with mm stated.
(b)	Midpoint marked	1	B1 for midpoint marked at 3 – 3.4 inclusive
			Total for Question: 2 marks

M20.

	Answer	Mark	Additional Guidance
(a)	3.50	1	B1 for 3.50 cao
(b)	3.05	1	B1 3.05 cao
(c)	3510	1	B1 for 3510 or 3510.00
		-	Total for Question: 3 marks

M21.	
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	Working	Answer	Mark	Additional Guidance
(a)		58	1	B1 57 to 59 (not inclusive)
(b)		3.6	1	B1 3.5 to 3.7 (not inclusive)
(c)	7 – 3.6	3.4	1	B1 for 3.3 to 3.5 (not inclusive) or ft on 7 – "(b)" provided "b" < 7
				Total for Question: 3 marks

M22.

	Answer	Mark	Additional Guidance
(a)	08 30	1	B1 for 08 30 oe
(b)	17	1	B1 cao
(c)	10 15	1	B1 for 10 15 oe
			Total for Question: 3 marks

M23.

	Answer	Mark	Additional Guidance
(a)	Correct line	1	B1 For a single line of length in the range 6.8 cm to 7.2 cm drawn with or without using the given

			point P
(b)	Correct point	1	B1 for point Q identified on their line within the range 2.8 cm to 3.2 cm from P
			Total for Question: 2 marks

E1. This question too was well understood, again with almost all candidates gaining 2 marks though in part (a) 20.9 was an occasional wrong answer.

E2. This question was not well understood and very few candidates obtained full marks. The most successful part was part (c) with almost all candidates giving 20mm. Very few candidates were able to give metric measures for height and weight though the majority of candidates gained 1 mark for either metres or kilograms.

##

This question proved challenging for many candidates; there were a vast number of partially correct solutions. It was clear that many candidates did not know how to read a timetable and consequently gave inaccurate timings in the given table. Some weaker candidates read the timetable horizontally to record meaningless times others just gave fictitious times.

##

In part (a), incorrect answers of 115 and 155 were common.

Part (b)(i) was usually correctly answered, although 'am' was sometimes seen instead of 'pm'. This gained no credit. In part (ii) 20 15 and 22 15 were the most common mistakes made.

Part (c) was not very well answered at all. Many candidates were able to find the number of minutes both Lucy (30) and Saad (40) were in the café; this was often followed by an answer of 70 minutes or 10 minutes. The more able candidates were able to find the required time often without the need to show their working. This is however a risky strategy since they would gain full credit or none at all.

E9. This was a good discriminator. Candidates were expected to make a reasonable estimate of the normal height of a man in metres; a wide tolerance of 1.5 to 2.0 metres was accepted. The flagpole was exactly 4 times as high as the man in the diagram.

In part (a) it was disappointing to find totally unreasonable estimates being given, some quite absurd heights. In part (b) candidates were not careful enough to measure the scaling factor, and a significant number used 3 or 5 as the scale. Those who gave an incorrect estimate in part (a) but used this in part (b) were given some credit.

E10. More than three quarters of the candidates gained at least two marks in part (a) and few failed to give at least one correct metric unit. The most common incorrect answers were 'feet' for the height of the tree, 'kg' for the weight of an egg and 'gallons' for the amount of petrol. In part (b) almost 70% of candidates were able to change 4 metres to centimetres but only half that number could change 1500 grams to kilograms in part (c) where 15 and 150 were the most common incorrect answers.

E11. Measuring the length of the line AB in part (a) proved to be straight forward for most candidates with 8 cm the most common answer. More than 10% of the candidates, though, were unable to measure the line accurately or gave no units or incorrect units with their measurement. Part (b) was also answered very well but some candidates were unable to mark the midpoint of the line with sufficient accuracy and some did not mark it at all.

E12. It was pleasing to note that nearly 65% of the candidates were able to answer this question correctly. It was clear, however, that many candidates could not cope with the mixed units with many candidates writing 1.42 - 0.3 = 1.12 as their answer. A few added the two numbers and wrote 1.45 whilst others converted incorrectly writing 1420 - 3 = 1417

E13. It was interesting to note that many students used imperial units in estimating the height of the man and then switched to metric units when estimating the height of the building. They were not penalised for this as long as their answers were in the required range. Many just measured the two, giving 2 cm and 8 cm as their two answers. Around 60% of the candidates scored all 3 marks with only around 10% failing to score any marks.

E14. There was a 68% success rate in part (a) with 4.3 being a very common incorrect answer.

In part (b) it was clear that very few candidates knew that there were 2.2 lbs (or even 2 lbs) in a kg. The most popular response was '10' although '100' and '1000' were also commonly seen. This resulted in babies weighing 50, 500 or even 5000 lbs ... quite an accomplishment even in this age of obesity! Hardly any candidates scored both marks and around 70% scored 1 mark, generally for multiplying their answer to (b)(i) by 5.

E15. This question was extremely well done by nearly all candidates. The most common errors were to either make part (a) 3.2 or make part (c) 44. There was over 95% success rate on the first 3 parts with around 84% success rate on part (d).

E16. Though most candidates could identify a unit of length or volume in part (a) of this question, imperial units were often seen. Most candidates gained at least one mark in

each of parts (a) and (b).Only 40% of candidates could carry out successfully both the conversions in part (b), with a further 40% getting one correct, usually (b)(i).

E17. This question was also well answered. Only 1% of candidates failed to score any marks. Nearly all candidates appeared to have access to a ruler and a pair of compasses and most used them with reasonable accuracy. Freehand attempts at drawing the circle were rarely seen. A small minority of candidates drew a circle with diameter 4cm rather than with a radius 4cm.

E18. This was a well-answered question in which the only errors concerned using scales.

E19. Specification A

This was a well answered question. The only common errors was not placing the ruler correctly on A, measuring the distance between the letters A & B rather than the line AB, and placing the midpoint inaccurately "by eye" rather than by measuring.

Specification B

Nearly 80% of the candidates were able to measure the length of the line with a high degree of accuracy as well as mark the mid-point within acceptable tolerances. The most common error was to merge the two parts of the question and give the distance to the mid-point.

Others wrote down 3.2 in (a), not realising that the length of the whole line was required.

E20. This was a well answered question with most candidates scoring full marks. Occasionally candidates lost marks in part (b) by giving the incorrect answer of £3.5, or in part (c) by confusing the use of commas and decimal points (eg 3.510)

E21. Only a very few candidates failed to answer part (a) correctly.

In parts (b) and (c), whilst about 60% of candidates gained full marks, many errors were made. The most common incorrect pairs of answers were, (b) 3.3, (c) 3.2 (or 4.2) gaining no marks and either (b) 3.5, (c) 3.5 or (b) 3.6, (c) 4.4 which each gained 1 mark.

A number of candidates failed to write a decimal point in their answers. It was never clear if this was a simple omission or whether it was a result of confusion with the scale.

E22. Specification A

Most candidates correctly identified the time of arrival of the 07 30 train to Alton. However the calculation of time differences required in part (b) was less than satisfactory; many candidates making simple arithmetical mistakes. In part (c), many candidates correctly identified the appropriate train but gave the time of arrival at Hexham (10 45) instead of the time from Crook (10 15).

Specification B

This question was generally done well. In part (a), most candidates were able to read the bus time table correctly to find the appropriate arrival time at Alton. Parts (b) and (c) were done well by about three quarters of the candidates. A common incorrect answer for part (b) was 23.

E23. All but a few candidates were able to demonstrate their ability to draw a 7 cm line accurately. However this was often not drawn from the given point. Candidates did not lose the mark for this provided their intended 7 cm line was unambiguous. Following their success in part (a), the vast majority were then able to place the point Q, 3 cm from P, again not always following the directions of the question and often merely placing a letter Q on their line.

Those whose measurements were incorrect were often 1 cm short, indicating they had started from 1 instead of 0 on their ruler. There was still some evidence of candidates not having a ruler.