

Place value and the four operations

Foundation tier

Total marks: 75

Marks

- M** Method mark, for a correct method. It can be implied by a correct answer.
- A** Accuracy mark, for a correct answer. It needs the method mark before it.
- B** A mark for a correct value or statement, with or without working.
- ft** Follow through: the mark is given for using an earlier wrong answer correctly.
- oe** Or equivalent.
- [a, b]** Any value from a to b inclusive.

Questions

Q	Skill	Spec	Tier	Grade	Calculator	Marks
1	Place value	N2	Foundation	1	No	2
2	Ordering and calculating with negative numbers	N1 N2	Foundation	2	No	3
3	Inequality symbols	N1	Foundation	2	No	2
4	Long multiplication	N2	Foundation	2	No	3
5	Subtraction, checked with the inverse	N2	Foundation	2	No	3
6	Division in context	N2	Foundation	3	No	3
7	Calculating with negative numbers	N2	Foundation	3	No	3
8	Missing digits	N2	Foundation	3	No	2
9	Division of a four-digit number	N2	Foundation	3	No	2
10	Using place value with a known fact	N2	Foundation	4	No	4
11	Money problem, working backwards	N2	Foundation	4	No	3
12	Negative numbers: sum and product	N2	Foundation	4	No	2
13	Money problem with change	N2	Foundation	2	Yes	3
14	Money calculation with decimals	N2	Foundation	2	Yes	3
15	Completing an order	N2	Foundation	2	Yes	3
16	Negative decimals in context	N2 N1	Foundation	2	Yes	3

Q	Skill	Spec	Tier	Grade	Calculator	Marks
17	Multiplication and division in context	N2	Foundation	2	Yes	2
18	Multiplication and subtraction in context	N2	Foundation	2	Yes	2
19	Comparing costs	N2	Foundation	3	Yes	3
20	Division in context, rounding up	N2	Foundation	3	Yes	3
21	Multi-step calculation with units	N2 N13	Foundation	3	Yes	3
22	Negative numbers with money	N2 N1	Foundation	3	Yes	3
23	Division in context, rounding up then sharing	N2	Foundation	3	Yes	4
24	Inverse operations	N3 N2	Foundation	3	Yes	2
25	Order of operations on a calculator	N3	Foundation	3	Yes	2
26	Money problem with an offer	N2	Foundation	3	Yes	3
27	Multi-step problem with large numbers	N2	Foundation	4	Yes	4
	Total					75

Question 1 N2 · Foundation · Grade 1 · 2 marks

Q	Answer	Mark	Comments
1(a)	30 064	B1	
1(b)	8 hundredths	B1	oe, 0.08 or $\frac{8}{100}$

Question 2 N1 N2 · Foundation · Grade 2 · 3 marks

Q	Answer	Mark	Comments
2(a)	Braemar	B1	
2(b)	12	B1	
2(c)	4	B1	

Question 3 N1 · Foundation · Grade 2 · 2 marks

Q	Answer	Mark	Comments
3	>, <, =	B2	B1 for two correct

Question 4 N2 · Foundation · Grade 2 · 3 marks

Q	Answer	Mark	Comments
4	$346 \times 20 = 6920$ or $346 \times 7 = 2422$	M1	oe, or a grid with at least four correct parts
	a complete method with at most one error	M1	such as $6920 + 2422$
	9342	A1	

Question 5 N2 · Foundation · Grade 2 · 3 marks

Q	Answer	Mark	Comments
5(a)	$4475 + 2478 = 6953$	B1	oe, any correct reason based on an inverse
5(b)	a correct method with exchanging, or counting on from 2478	M1	oe, such as $2478 + 22 + 500 + 3003$
	3525	A1	

Question 6 N2 · Foundation · Grade 3 · 3 marks

Q	Answer	Mark	Comments
6	3×500 or 1500	M1	
	$1500 \div 28$	M1	oe, or repeated adding of 28, or 53.5...
	53	A1	

Question 7 N2 · Foundation · Grade 3 · 3 marks

Q	Answer	Mark	Comments
7(a)	35	B1	
7(b)	-14	B1	
7(c)	8 and -7	B1	

Question 8 N2 · Foundation · Grade 3 · 2 marks

Q	Answer	Mark	Comments
8	$48 \times 7 = 336$	B2	B1 for one correct digit

Question 9 N2 · Foundation · Grade 3 · 2 marks

Q	Answer	Mark	Comments
9	a correct method with at most one error	M1	such as long division, short division or chunking $2800 = 200 \times 14$
	207	A1	

Question 10 N2 · Foundation · Grade 4 · 4 marks

Q	Answer	Mark	Comments
10(a)	26.64	B1	
10(b)	7400	B1	
10(c)	266.4	B1	
10(d)	360	B1	

Question 11 N2 · Foundation · Grade 4 · 3 marks

Q	Answer	Mark	Comments
11	$25 - 2$ or 23 or 4×1.85 or 7.40	M1	oe
	$(23 - 7.40) \div 2.60$	M1	oe, or $15.60 \div 2.60$, or adds 2.60s to 7.40 until 23
	6	A1	

Question 12 N2 · Foundation · Grade 4 · 2 marks

Q	Answer	Mark	Comments
12	a pair with product -40, or factor pairs of 40 listed	M1	such as 8 and -5, or 5 and -8
	-8 and 5	A1	

Question 13 N2 · Foundation · Grade 2 · 3 marks

Q	Answer	Mark	Comments
13	3×4.79 or 14.37 or 2×6.35 or 12.70	M1	oe
	$50 - (14.37 + 12.70)$ or $50 - 27.07$	M1	oe, ft their two amounts
	£22.93	A1	

Question 14 N2 · Foundation · Grade 2 · 3 marks

Q	Answer	Mark	Comments
14	37.5×11.44 or £429.00	M1	oe
	6×17.16 or £102.96	M1	oe
	£531.96	A1	

Question 15 N2 · Foundation · Grade 2 · 3 marks

Q	Answer	Mark	Comments
15	at least two correct costs from £16.92, £28.32, £58.50, £11.70	M1	
	all four costs correct, or their four costs added	M1	
	£115.44	A1	

Question 16 N2 N1 · Foundation · Grade 2 · 3 marks

Q	Answer	Mark	Comments
16(a)	-128.55	B1	
16(b)	-221.75	B1ft	ft their (a) - 93.2
16(c)	264.35	B1ft	ft 42.6 + the size of their (b)

Question 17 N2 · Foundation · Grade 2 · 2 marks

Q	Answer	Mark	Comments
17(a)	£12.35	B1	
17(b)	29	B1ft	ft $358.15 \div$ their (a)

Question 18 N2 · Foundation · Grade 2 · 2 marks

Q	Answer	Mark	Comments
18	47×64 or 3008	M1	
	293	A1	

Question 19 N2 · Foundation · Grade 3 · 3 marks

Q	Answer	Mark	Comments
19	24×24 or £576	M1	
	$329 + 24 \times 8.50$ or £533	M1	oe
	Deal B by £43	A1	

Question 20 N2 · Foundation · Grade 3 · 3 marks

Q	Answer	Mark	Comments
20	$289.99 - 45$ or 244.99	M1	oe
	$244.99 \div 12.50$ or 19.59...	M1	oe, ft their 244.99, or 12.50s added to 45 until at least 289.99
	20	A1	not 19 or 19.6

Question 21 N2 N13 · Foundation · Grade 3 · 3 marks

Q	Answer	Mark	Comments
21	28×0.35 or 9.8	M1	oe, ml in one minute, or $28 \times 60 \times 24 \times 7 = 282\,240$ drips
	a complete method for the ml in a week, 98 784	M1	oe, such as $9.8 \times 60 \times 24 \times 7$
	98.784	A1	accept 98.8

Question 22 N2 N1 · Foundation · Grade 3 · 3 marks

Q	Answer	Mark	Comments
22	$-248.37 + 415.80$ or 167.43	M1	oe
	3×36.99 or 110.97	M1	oe
	£56.46	A1	

Question 23 N2 · Foundation · Grade 3 · 4 marks

Q	Answer	Mark	Comments
23	$455 \div 53$ or 8.58...	M1	oe
	9 coaches	A1	
	their $9 \times 385.50 \div 418$	M1	oe, or $\pounds 3469.50 \div 418$
	£8.30	A1	

Question 24 N3 N2 · Foundation · Grade 3 · 2 marks

Q	Answer	Mark	Comments
24	$(23.31 + 7.65) \div 2.4$	M1	oe, or $30.96 \div 2.4$
	12.9	A1	

Question 25 N3 · Foundation · Grade 3 · 2 marks

Q	Answer	Mark	Comments
25(a)	41.67	B1	
25(b)	$(18.4 - 6.2) \times 1.5 + 2.7$	B1	

Question 26 N2 · Foundation · Grade 3 · 3 marks

Q	Answer	Mark	Comments
26	$17 \div 5$ or 3 free packs	M1	oe, or 14 packs to pay for
	14×23.85	M1	oe, or $17 \times 23.85 - 3 \times 23.85$
	£333.90	A1	

Question 27 N2 · Foundation · Grade 4 · 4 marks

Q	Answer	Mark	Comments
27	$18\,450 \times 24.50$ or £452 025	M1	oe
	their £452 025 – 96 800 or £355 225	M1	
	their £355 225 $\div 5$	M1	
	£71 045	A1	