

Name: Answers Date:

1	Find the Lowest common multiple of 4 and 14 4, 8, 12, 16, 20, 24, 28 14, 28 LCM = 28 M1 → multiples of 4 M1 → " " " 14 A1 → 28	L5
2	Find the Highest common factor of 18 and 30 18, 30 18: 1x18, 2x9, 3x6 30: 1x30, 2x15, 3x10, 5x6 HCF = 6 M1 → all factors of 18 M1 → all " " 30 A1 → 6	L5
3	Look at the number below. 5.327 What does the digit 7 represent? 7 thousandths or $\frac{7}{1000}$	L5
4	Fill in the blanks. $0.3 \times 1000 = 300$ (1) $... \dots + 100 = 0.03$ (1)	L5
5	Fill in the boxes. The first one is done for you. 2.67 rounded to one decimal place is 2.7 2.75 rounded to one decimal place is 2.8 (1) 2.05 rounded to one decimal place is 2.1 (1) 2.91 rounded to one decimal place is 2.9 (1)	L5

6	Write these temperatures in order. Start with the coldest. -4°C 3°C -7°C 0°C -2°C -7°C, -4°C, -2°C, 0°C, 3°C B2 all correct 1 → 3 correct	L5
7	Write the ratio 20:12 in its simplest form. 5:3 (1)	L5
8	Work out $3 + (-10) = -7$ (1) $(-9) - (-9) = 0$ (1) $11 + (-8) = 3$ (1) $(-7) - 9 = -16$ (1)	L5
9	Work out $2 \times (-4) = -8$ (1) $(-6) \times (-3) = 18$ (1) $20 + (-5) = -4$ (1) $(-72) + (-8) = -80$ (1)	L5
10	Look at this calculation $32 \times 386 = 12352$ Use this information to find answer to $3.2 \times 386 = 1235.2$ (1)	L5
11	Work out $8.2 \times 2.5 = 20.5$ $\begin{array}{r} 8.2 \\ \times 2.5 \\ \hline 410 \\ 1640 \\ \hline 20.50 \end{array}$ M1, A1	L5
12	Work out $2 + 5 \times 3$ $2 + 15 = 17$ (1)	L5
13	Work out $348 \times 27 = 9396$ $\begin{array}{r} 348 \\ \times 27 \\ \hline 2436 \\ 7656 \\ \hline 9396 \end{array}$ $\begin{array}{r} 3100 \\ 1080 \\ 216 \\ \hline 9396 \end{array}$ M2, A1	L5
14	Work out $657 \div 3 = 219$ $\begin{array}{r} 219 \\ 3 \overline{)657} \\ \underline{657} \\ 0 \end{array}$ M1, A1	L5

19	Simplify these expressions.	L6
	$3^3 \times 3^6 = 3^{3+6} = 3^9$ ① $6^8 \div 6^3 = 6^{8-3} = 6^5$ ① $(7^5)^3 = 7^{5 \times 3} = 7^{15}$ ① $2e^2 \times 9e^3 = 18e^{2+3} = 18e^5$ ① $10a^7 \div 5a^5 = \frac{10a^7}{5a^5} = 2a^2$ ①	
20	Miss Moneypenny inherits £880 from a secret agent. She decides to save some of the money and spend the rest. The ratio of savings to spending money is 7 : 4. How much does she save? How much does she spend?	L6
	$7+4=11$... ① $\frac{880}{11} = 80$ ① $80 \times 7 = 560$ £ $80 \times 4 = 320$ £ Savings <input type="text" value="£560"/> ① Spending money <input type="text" value="£320"/> ①	
21	If 9 ties cost £135, how much do 15 ties cost?	L6
	$9 \rightarrow £135$ $1 \rightarrow \frac{135}{9} = 15$ ① $15 \rightarrow 15 \times 15 = £225$ ①	
22	Simplify $2^5 \div 2^8 = 2^{5-8} = 2^{-3}$ ①	L7
	Evaluate $2^5 + 2^8 = \frac{1}{2^3} = \frac{1}{8}$ ①	
23	<u>Write 5^{-6} as a index form.</u>	L7

15	Work out $2934 \div 5$ (if your answer is a decimal round to 2 d.p.)	L5
	$\begin{array}{r} 586.8 \\ 5 \overline{)2934.0} \end{array}$ <input type="text" value="(M2, A1)"/>	
16	Estimate 19×43	L5
	$\begin{array}{r} 20 \times 40 = 800 \end{array}$ <input type="text" value="(M1, A1)"/>	
17	A group of 28 people are going on a trip to a zoo. The ratio of males to females is 3:4. How many males are going on the trip?	L5
	M:F $\frac{28}{7} = 4$ ① 3:4 12:16 12 Males ①	
18	Write 60 as product of its primes.	L6
	$60 = 2 \times 2 \times 3 \times 5$ <input type="text" value="(M1, A1)"/>	
	Write 70 as product of its primes.	
	$70 = 2 \times 5 \times 7$ <input type="text" value="(M1, A1)"/>	
	Find the highest common factor of 60 and 70.	
	$60: 2 \times 2 \times 3 \times 5$ $70: 2 \times 5 \times 7$ HCF = $2 \times 5 = 10$	<input type="text" value="(M1, A1)"/>
	Find the Lowest common multiple of 60 and 70.	
	LCM = $10 \times 2 \times 3 \times 7$ = 420	<input type="text" value="(M1, A1)"/>

31	Change the following numbers from standard form to normal numbers.	L8
	a) 2.45×10^4 \rightarrow 24500 (1) b) 5.88×10^{-3} \rightarrow 0.00588 (1)	
32	Calculate the following. Write your answer in standard form.	L8
	$(2 \times 10^3) \times (4 \times 10^5)$ 8×10^8 (1) $\rightarrow 8$ $(3 \times 10^1) \div (2 \times 10^{-4})$ 1.5×10^5 (1) $\rightarrow 1.5$ 1.5×10^5 (1) $\rightarrow 10^5$	

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End of test


Level Boundaries

- 1-13: 5c
- 14-27: 5b
- 28-41: 5a

- 42-47: 6c
- 48-54: 6b
- 55-61: 6a

- 62-66: 7c
- 67-72: 7b
- 73-80: 7a

- 80-88: 8c

24	Evaluate	L7
	$\sqrt[3]{27} = 3$ <input checked="" type="radio"/> A <input type="radio"/> B (1)	
25	You can buy boxes of the same cereal in two sizes. Which box is better value for money? You must show working to explain your answer.	L7
	 A: 500 g for £2.50 $100g \text{ for } \frac{2.50}{5} = 50p$ (1) B: 400 g for £2.10 $100g \text{ for } \frac{2.10}{4} = 52.5p$ (1) $52.5p \text{ or } 53p$ (1)	
26	Tick your answer. <input checked="" type="checkbox"/> A <input type="checkbox"/> B (1) Work out 16×0.4 $16 \times 4 = 64$ (1)	L7
27	Work out $0.7 \div 0.1$ $\frac{0.7}{0.1} = \frac{7}{1} = 7$ (1)	L7
28	Round these numbers to one significant figure.	L7
	a) 5.16 \rightarrow 5 (1) b) 36.5 \rightarrow 40 (1) c) 0.0042 \rightarrow 0.004 (1)	
29	Write down an estimate for $\frac{415 \times 87.3}{29.5 \times 21.36}$ $= \frac{400 \times 90}{30 \times 20} = \frac{36000}{600} = 60$ (1)	L7
30	Change the following numbers into standard form.	L8
	a) $0.056 = 5.6 \times 10^{-2}$ (1) b) $3\,620\,000 = 3.62 \times 10^6$ (1)	