Term 1	Definition 1
What is an integer?	**A whole number without a fractional part. Can be POSITIVE, NEGATIVE or the number 0.**
Term 2	**Definition 2**
What is the quotient?	**The result of dividing two integers**
Term 3	**Definition 3**
When is an integer DIVISIBLE by another number?	**When the integer can be divided by the number with an INTEGER result i.e. NO REMAINDER**

Term 4	Definition 4
8 / 2 = 4... a) What can we say about 2 in this instance? b) What can we say about 8 in this instance?	a) 2 is a DIVISOR or FACTOR of 8 b) 8 is a MULTIPLE of 2 and a MULTIPLE OF 4. 8 is DIVISIBLE by 2 and by 4.
Term 5	**Definition 5**
An integer is divisible by 2 if...	It is EVEN. If the ones digit is 0,2,4,6 or 8.
Term 6	**Definition 6**
An integer is divisible by 3 if...	The SUM of the integer's DIGITS is DIVISIBLE by 3

Term 7	Definition 7
An integer is divisible by 4 if...	**The integer is divisible by 2 TWICE** **or** **the LAST TWO digits are divisible by 4 (useful for larger numbers)**
Term 8	**Definition 8**
An integer is divisible by 5 if...	**The integer ENDS in 0 or 5**
Term 9	**Definition 9**
An integer is divisible by 6 if...	**It is divisible by BOTH 2 and 3.** **e.g. 48 is divisible by 2 (ends with an 8, which is EVEN), and 3 (4+8 = 12, which is divisible by 3).**

Term 10	Definition 10
An integer is divisible by 8 if...	**It is divisible by 2 THREE TIMES, or the LAST THREE DIGITS are divisible by 8 (for larger numbers)**
Term 11	**Definition 11**
An integer is divisible by 9 if...	**The SUM of the integer's DIGITS is divisible by 9**
Term 12	**Definition 12**
An integer is divisible by 10 if...	**It ends in 0**

Term 13	Definition 13
An integer has a ONES digit of 0. What is it divisible by?	**10**
Term 14	**Definition 14**
The sum of an integer's digits is 21. What is it divisible by? What is it NOT divisible by?	**a) 3 b) 9 (2+1=3 is NOT divisible by 9)**
Term 15	**Definition 15**
An integer x ends in 0 or 5. What is it divisible by?	**5**

Term 16	Definition 16
An integer is divisible by 2 AND 3. What is it divisible by?	**6**
Term 17	**Definition 17**
The last 2 digits of a very large integer are divisible by 4. What is the integer divisible by?	**4**
Term 18	**Definition 18**
An integer divided by 2, two times, yields another integer. What must it be divisible by?	**4**

Term 19	Definition 19
The sum of an integer's digits is a multiple of 3. What must it be divisible by?	**3**
Term 20	**Definition 20**
1,234,567 is odd because?	**7 is odd...**
Term 21	**Definition 21**
2,345,678 is EVEN because?	**8, being the last digit, is even**

Term 22	Definition 22
An integer, divided by 10, yields a quotient ending in either 5. **What is the quotient divisible by?** **If the quotient ended in 0, what would it be divisible by?**	**a) 5** **b) 0 or 5**
Term 23	**Definition 23**
What is a FACTOR?	**A positive integer that divides EVENLY into an integer with no remainder.**
Term 24	**Definition 24**
What is a multiple of an integer ?	**A multiple of an integer is formed by multiplying that integer by another integer.**

Term 25	Definition 25
0 is a multiple of every number. **TRUE or FALSE?**	**TRUE.**
Term 26	**Definition 26**
Why is 0 technically a multiple of any integer ?	**Zero is technically a multiple of any number because that number times zero (an integer) equals zero (an integer).**
Term 27	**Definition 27**
An integer is both a ___ and a ___ of itself ? **How many integers is 1 a factor of?**	**FACTOR, MULTIPLE.** **All integers.**

Term 28	Definition 28
To find all the factors of a small number, you can use FACTOR PAIRS. **Describe factor pairs for any integer, and describe this process.**	**Factor pairs for any integer are the pairs of factors that, when multipled together, yield that integer.** **1. Start with the automatic factors (1 and the integer itself).** **2. "Walk upwards" from 1, testing to see whether different numbers are factors of 72.** **3. Keep walking upwards until all factors are exhausted.**
Term 29	**Definition 29**
What is the mnemonic... Fewer ____, more _____ ?	**Factors, Multiples.**
Term 30	**Definition 30**
A factor is greater than the integer it is a factor of. **TRUE or FALSE ?**	**FALSE.** **Factors are ALWAYS less than or equal to the integer they are a factor of.**

Term 31	Definition 31
A multiple is greater than the integer it is a factor of. **TRUE or FALSE ?**	**TRUE.** **Multiples are ALWAYS greater than or equal to the integer they are a multiple of.**
Term 32	**Definition 32**
12 = 3n, where n is an integer. **Is 12 a multiple of 3 and n?** **Is 12 divisible by n?** **Are 3 and n factors of 12?** **How many times does n divide into 12?**	**YES** **YES** **YES** **4**
Term 33	**Definition 33**
12 items can be shared amongst 3 people so that each person has the same number of items... **This is the same as saying:**	**12 is divisible by 3.** **There are 4 items for each person.** **12 is a multiple of the number of people.** **12 is a multiple of the number of items in each group.** **etc.**

Term 34	Definition 34
(5 x n) + (3 x n) = 8 x 7... What is n?	7 ... because (5 + 3) x n = 8 x n = 8 x 7
Term 35	**Definition 35**
Adding/Subtracting multiples of N results in?	A multiple of N.
Term 36	**Definition 36**
If N is a divisor of x and y, then N is also a divisor of?	x + y

Term 37	Definition 37
What is a prime number?	**A number larger than 1 with exactly 2 factors. i.e. a number with NO factors other than 1 and itself.**
Term 38	**Definition 38**
Why is 1 not a prime number?	**Because it only has one factor: itself.**
Term 39	**Definition 39**
The first 10 primes are?	**2, 3, 5, 7, 11, 13, 17, 19, 23, 29**

Term 40	Definition 40
What is a good way to test if a number is a prime number?	**CHECK THIS ONE IN O.G. and fill in asnwer**
Term 41	**Definition 41**
Prime numbers are the building blocks of?	**Integers**
Term 42	**Definition 42**
What is the Factor Foundation Rule ?	**If A is a factor of B, and B is a factor of C, then A is a factor of C** **e.g. if 72 is div. by 12, then 72 is also div. by ALL ofthe factors of 12 (1,2,3,4 and 12).** **or also you can say...** **if 12 is a factor of 72, then all the factors of 12 are also factors of 72.**

Term 43	Definition 43
You can build almost any factor of an integer out of the bottom level of the foundation built by its prime factors. Why not all factors?	Because 1 is a factor of every number, but it is not prime. DON'T forget to include 1 if asked for the number of unique factors of an integer, for example.
Term 44	**Definition 44**
Why are prime boxes useful?	It holds all the prime factors of a number (i.e. the lowest level building blocks). You can use a prime box to test whether or not a specific number is a factor of another number. e.g. is 27 a factor of 72? NO --> 72 = 2.2.2.3.3 ... 27 = 3.3.3 ... there are only two 3's in 72 so we can't make 27 from the prime factors of 72. Therefore 27 is NOT a factor of 72
Term 45	**Definition 45**
The largest divisor of two or more integers is the?	GCF: Greatest Common Factor

Term 46	Definition 46
The smallest multiple of two or more integers is the?	**LCM: Lowest Common Multiple**
Term 47	**Definition 47**
When you reduce the fraction 9/12 to 3/4, you are doing what?	**Dividing the numerator and denominator by 3, which is the GCF of both 9 and 12 (i.e. the largest divisor of 9 and 12)**
Term 48	**Definition 48**
In a VENN Diagram of Overlapping Primes, the product of the primes in the shaded/overlapping area is the?	**GCF**

Term 49	Definition 49
In a VENN Diagram of Overlapping Primes, the product of ALL the unique primes in the diagram a is the?	**LCM: Lowest Common Multiple**
Term 50	**Definition 50**
When you add together 1/2 + 1/3 + 1/5, why do you convert the fractions to thirtieths?	**Because 30 is the LCM of 2, 3 and 5**
Term 51	**Definition 51**
In a VENN DTiagram of Overlapping Primes, the 2 outer regions should have primes in common **TRUE or FALSE?**	**FALSE** **The 2 outer regions should have NO primes in common.** **The common primes go in the shaded area of the VENN.**

Term 52	Definition 52
If 2 numbers have NO primes in common, what is their GCF and LCM?	**GCF = 1 (as 1 is the common factor of ALL positive integers)** **LCM = the product of the 2 numbers**
Term 53	**Definition 53**
17 / 5 = 3 Remainder 2 **This is the same as saying...**	**17 = 15 + 2 = 3x5 + 2** **17 is 2 more than 15** **17 is 2 more than a multiple of 5** **17 is 2 more than a multiple of 3**
Term 54	**Definition 54**

Term 55	Definition 55
***x* and *y* are positive integers and *x* = 10*y* + 5** **why must x be divisible by 5 ?**	**Since both *x* and *y* are positive integers, 10*y* must be a multiple of 10. Also, since any multiple of 10 is also a multiple of 5, 10*y* is a multiple of 5. Therefore, *x* represents the sum of a multiple of 5 and 5. Since adding 5 to another multiple of 5 will always result in another multiple of 5, *x* must be a multiple of 5. As a result, *x*must be divisible by 5 and will leave no remainder when divided by 5. The correct answer is A.**