Thursday 3rd February 2022 **Sheet 1**

MPI: Solving problems involving factors, multiples, squares and cube numbers

1. Write down all the factors of:

   a. 20

   _____

   b. 32

   _____

   c. 25

   _____

   d. 49

   _____

   e. 80

   _____

   Challenge: Compare the number of factors that 20, 32 and 80 have with the number of factors 25 and 49 have. What do you notice?

2. List the first four multiples of:

   a. 3

   _____

   b. 7

   _____

   c. 10

   _____

   d. 12

   _____

   Challenge: Use your lists to find the lowest common multiple of 3 and 12.

   _____

   _____

3. Which of these numbers is not a prime number?

   2, 9, 41

   _____

   Challenge: The number 22 has two prime factors. What are they?

   _____

   _____

Challenge: Which of the following is both a square number and a cube number?

4, 8, 64, 100

_____

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Crack the Code with Factors, Multiples, Square Numbers and Cube Numbers

Solve problems involving multiplication and division, including using their knowledge of factors and multiples, squares and cubes.

Each answer to the questions below will be a number. Match the number to a letter in the grid below. If your answers are correct, your letters will spell out a phrase.

1	2	3	4	5	6	7	8	9	10	11	12	13
A	B	C	D	E	F	G	H	I	J	K	L	M
14	15	16	17	18	19	20	21	22	23	24	25	26
N	O	P	Q	R	S	T	U	V	W	X	Y	Z

Which number?	Notes/Number	Letter
This number is a multiple of seven and two and is a factor of 28.		
This number is a square number, a multiple of three and one more than a cube number.		
This number is a prime number and a factor of 36.		
When this number is squared, the answer is the largest square number in the list above.		
This prime number is > 19 and < 29.		
This number is a multiple of five and three.		
This multiple of nine is in between two prime numbers.		
This number is the difference between 5^2 and 6^2.		