Key for Quiz questions

1. Every even number is always a multiple of **___2____.**

2. What is the product of 7 X 15 X 16 X (-48) X 0 X (-18) X 45.

Answer: Zero

Any number multiplied by zero is always zero.

3. What is the remainder when 13 divides 91 ?

Answer: Zero (Since 7 x 13 = 91)

4. What is the quotient when 120 is divided by 17 ?

Answer: 7 (Since 7 x 17 = 119)

5. Can the Divisor be smaller than the Dividend ? (try various examples)

Answer: Yes

Let Dividend = 12; Divisor = 6.
Here 6 can be a divisor if 12.

6. Can the Quotient be larger than the Divisor ? (try various examples)

Answer: Yes
Let the dividend = 6; Divisor = 2 then the quotient = 3(3 >2)

7. Can the Remainder be larger than the Divisor ?

Answer: No
Reminder should always less than the Divisor.

If the number considered as remainder is greater than the divisor then it is a dividend.

8. Determine all the factors of 12

Answer: 1, 2, 3, 4, 6, 12

9. Determine all the factors of 35

Answer: 1, 5, 7, 35

10. Determine all the factors of 72

Answer: 1, 2, 3, 4,6,8,9,12,18,24,36,72

11. Determine all the factors of 96

Answer: 1, 2, 3 , 4, 6, 8, 12, 16, 24, 32, 48, 96

12. Determine all the factors of 105

Answer: 1, 3,5, 7,15, 21, 35,105

13. Determine all the factors of 256

Answer: 1, 2, 4, 8, 16, 32, 64, 128, 256

14. What are the factors of 119 ?

Answer: 1,7,17,119

15. What are the factors of 225 ?

Answer: 1, 3, 5, 9, 15, 25, 45, 75, 225

16. List out some of the multiples of 12.

Answer: 12, 24, 36, 48, 60...

17. List five multiples that are common to 12 and 18.

Answer: 36, 72, 108, 144...

18. List five multiples that are common to 12, 18 and 24.

Answer: 72, 144, 216, 288...

19. List out all the odd factors of 90.

Answer: 1, 3, 5, 9, 15, 45

20.List out all the even factors of 125.

Answer: None

Note: Odd number cannot have an even factor.

21. List out all the prime factors of 210

Answer: 2, 3, 5, 7

Factors of 210 = {1, 2, 3, 5, 6, 7, 10, 14, 15, 21, 35, 42, 70, 105, 210}
Prime factors are {2, 3, 5, 7}

22. Is 81 a multiple of -9 ?

Answer: Yes

23. Can an even number be a Prime Number ?

Answer: Yes (2 is the only even prime number)

24. Is 323 a prime number ?

Answer: No (It is a multiple of 17, i.e17 x 19 = 323)

25. ____**2**_____ is the least prime even integer and __**3**___ is the least prime odd integer.

26. Find the GCD of:

i) 12 and 16

12 = 2 x 2 x 3 x 1
16 = 2 x 2 x 2 x 2 x 1
Greatest common divisor = 2 x 2 = 4

ii) 91, 51, 13

91 = 7 x 13 x 1

51 = 1 x 3 x 17
13 = 1 x 13

GCD = 1

iii) 14 , 35 and 5

14 = 1 x 2 x 7
35 = 1 x 5 x 7
5 = 1 x 5

GCD = 1

iv) 45 and -9

45 = 5 x 3 x 3 x 1
-9 = 3 x 3 x -1

GCD = 3 x 3 = 9

27. Find the LCM of:

i) 54 and 36

54 = 2 x 3 x 3 x 3 x 1
36 = 2 x 3 x 3 x 1 x 2
Least common factor = 2 x 3 x 3 x 1 x 3 x 2 = 108

LCM = 108

ii) 8 and 24

8 = 2 x 2 x 2 x 1
24 = 2 x 2 x 2 x 3 x 1

LCM = 24

iii)18 and 12

18 = 2 x 3 x 3 x 1
12 = 2 x 2 x 3 x 1
LCM = 36

iv) 20, 25, 15

20 = 5 x 2 x 2 x 1
25 = 5 x 5 x 1
15 = 3 x 5 x 1
LCM = (5) x (2 x 2) x (5)x (3) = 300

iv) 72, 6, 18

72 = 2 x 2 x 2 x 3 x 3 x 1
6 = 2 x 3 x 1
18 = 2 x 3 x 3 x 1
LCM = (1 x 2 x 3)x (2 x 2 x 3) = 72.

28 Find the possible value of a.

i) $|a - 6| = 8$

Then
a – 6 = 8 or a – 6 = - 8
case 1:
a – 6 = 8
a = 6+8 = 14
case 2:
a – 6 = -8
a = -8 + 6 = -2

Answer: a can be either 14 or -2 (You can check the answer. |a – 6| = |14 – 6| = |8| = 8).

ii) $|2a – 5| = 15$

Then
2a – 5 = 15 or 2a – 5 = - 15
case 1:
2a – 5 = 15
2a = 15+5 = 20
a = 20/2 = 10
case 2:
2a – 5 = -15
2a = -15 + 5 = -10

a = -10/2 = -5

Answer: a can be either 10 or -5 .

iii) $|4a - 8| = 24$

Answer: a can be either -4 or 8.