HCF and LCM of Numbers Questions for CDS & SSC Exams.

HCF and LCM of numbers Quiz 1

Directions: Kindly study the following Questions carefully and choose the right answer:

1. Find the least number exactly divisible by 12, 15, 20 and 27.

A. 340 B. 540 C. 440 D. 320

2. Find the greatest number which on dividing 1657 and 2037 leaves remainders 6 and 5 respectively.

A. 112 B. 117 C. 127 D. 137

3. Find the largest number of four digits exactly divisible by 12, 15, 18, 27.

A. 8560 B. 9720 C. 5340 D. 1240

4. Find the H.C.F. and L.C.M. of $\frac{2}{3}, \frac{8}{9}, \frac{16}{81}$ and $\frac{10}{27}$.

A. $\frac{3}{82}, \frac{80}{3}$ B. $\frac{2}{81}, \frac{80}{3}$ C. $\frac{2}{81}, \frac{90}{3}$ D. None of these

5. The H.C.F of two number is 11 and their L.C.M is 693. If one of the numbers is 77, find the other.

A. 88 B. 99 C. 11 D. 49

6. Find the H.C.F of 513, 1134 and 1215.

A. 27 B. 37 C. 47 D. 54

7. Reduce $\frac{391}{667}$ to lowest terms.

A. $\frac{12}{23}$ B. $\frac{17}{23}$ C. $\frac{17}{29}$ D. $\frac{17}{21}$

8. Find the L.C.M of 16, 24, 36 and 54.

A. 478 B. 342 C. 243 D. 432

9. Find the L.C.M of 72, 108 and 2100.

A. 27800 B. 23800 C. 37800 D. 42300

10. Find the least number which when divided by 20, 25, 35 and 40 leaves remainders 14, 19, 29 and 34 respectively.

A. 1256 B. 1394 C. 1056 D. 956

Correct Answers:

1	2	3	4	5	6	7	8	9	10
B	C	B	B	B	A	C	D	C	B

Explanations:

1. Required number = L.C.M of 12, 15, 20, 27.

3|12 - 15 - 20 - 27
4| 4 - 5 - 20 - 9
5| 1 - 5 - 5 - 9
| 1 - 1 - 1 - 9

∴ L.C.M = 3 × 4 × 5 × 9 = 540.
Hence, required number is 540.
Therefore, option B is correct.

2. Required number = H.C.F of (1657 – 6) and (2037 – 5) = H.C.F of 1651 and 2032.

1651) 2032 (1
1651
381) 1651 (4
1524
127) 381 (3
381
x

∴ Required number = 127.
Hence, option C is correct.

3. The largest number of four digits is 9999.
Required number must be divisible by L.C.M of 12, 15, 18, 27 i.e, 540.
On dividing 9999 by 540, we get 279 as remainder.
∴ Required number = (9999 – 279) = 9720.
Hence, option B is correct.

4.

H.C.F of given fractions = $\frac{\text{H.C.F of 2, 8, 16, 10}}{\text{L.C.M of 3, 9, 81, 27}} = \frac{2}{81}$.

L.C.M of the given fractions = $\frac{\text{L.C.M of 2, 8, 16, 10}}{\text{H.C.F of 3, 9, 81, 27}} = \frac{80}{3}$.

Hence, option B is correct.

5. As, we know that,
H.C.F. × L.C.M. = First Number × Second Number

Second number $= \left(\frac{\text{H.C.F.} \times \text{L.C.M.}}{\text{First Number}}\right)$

So, the second number $= \left(\frac{11 \times 693}{77}\right) = 99.$

Hence, option B is correct.

6.

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1134) 1215 (1
      1134
      ----
        81) 1134 (14
            81
            ---
            324
            324
            ---
              x
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∴ H.C.F. of 1134 and 1215 is 81.
So, Required H.C.F = H.C.F. of 513 and 81.

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81) 513 (6
    486
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     27) 81 (3
         81
         --
          x
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∴ H.C.F of given numbers = 27.
Hence, option A is correct.

7. H.C.F of 391 and 667 is 23.
On dividing the numerator and denominator by 23, we get :

$\frac{391}{667} = \frac{391 \div 23}{667 \div 23} = \frac{17}{29}.$

Hence, option C is correct.

8.

2	16	24	36	54
2	8	12	18	27
2	4	6	9	27
3	2	3	9	27
3	2	1	3	9
	2	1	1	3

∴ L.C.M = 2 × 2 × 2 × 3 × 3 × 2 × 3 = 432.

Hence, option D is correct.

9. From the equation :

$72 = 2^3 \times 3^2$, $108 = 3^3 \times 2^2$, $2100 = 2^2 \times 5^2 \times 3 \times 7$.

∴ L.C.M = $2^3 \times 3^3 \times 5^2 \times 7 = 37800$.

Hence, option C is correct.

10. Here, (20 – 14) = 6, (25 – 19) = 6, (35 – 29) = 6 and (40 – 34) = 6.

Required number = (L.C.M. of 20, 25, 35, 40) – 6

∴ Required number = 1400 – 6 = 1394.

Hence, option B is correct.