

Chapter- 10

Factors and multiples

WORKSHEET

A. FILL IN THE BLANKS.

1. one is a factor of everyone.
2. 2 is the first even prime number.
3. The smallest multiple of a number is the one.
4. one is a multiple of every number.
5. Prime numbers are having Two numbers of factors.

B. CHOOSE THE CORRECT ANSWER.

6. Every number is a multiple of _____.
a. 0 b. 1 c. 33 d. None
7. Composite numbers are the numbers having more than two factors i.e other than _____ and the number itself.
a. 0 b. 1 ✓ c. 33 d. None
8. Every _____ number can be expressed as a product of all its prime factors.
a. Prime b. Composite ✓ c. HCF d. None
9. Composite numbers are having more than _____ factors.
a. 2 ✓ b. 1 c. 3 d. None

10. When a particular number is a multiple of 2 or more numbers, it is called a

- a. LCM b. HCF c. Common multiple ✓ d. None

C. ANSWER THE FOLLOWING QUESTIONS.

11. Write the first five multiples of 18.

18, 36, 54, 72, 90

12. Find the HCF of 40, 50 and 60 by prime factorization method.

$\begin{array}{r l} 2 & 40 \\ \hline 2 & 20 \\ \hline 2 & 10 \\ \hline 5 & 5 \\ \hline & 1 \end{array}$	$\begin{array}{r l} 2 & 50 \\ \hline 5 & 25 \\ \hline 5 & 5 \\ \hline & 1 \end{array}$	$\begin{array}{r l} 2 & 60 \\ \hline 2 & 30 \\ \hline 3 & 15 \\ \hline 5 & 3 \\ \hline & 1 \end{array}$	<p>40 = 2 × 2 × 2 × 5 50 = 2 × 5 × 5 60 = 2 × 2 × 3 × 5</p> <p>HCF = 2</p>
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13. Find the LCM of 36 and 52 by listing method.

Multiples of 36 = 36, 72, 108, 144, 180, 216, 252, 288, 324, 360, 396, 432, 468, 504, 540, 576, 612, 648, 684, 720, 756, 792, 828, 864, 900, 936, 972, 1008, 1044, 1080, 1116, 1152, 1188, 1224, 1260, 1296, 1332, 1368, 1404, 1440, 1476, 1512, 1548, 1584, 1620, 1656, 1692, 1728, 1764, 1800, 1836, 1872, 1908, 1944, 1980, 2016, 2052, 2088, 2124, 2160, 2196, 2232, 2268, 2304, 2340, 2376, 2412, 2448, 2484, 2520, 2556, 2592, 2628, 2664, 2700, 2736, 2772, 2808, 2844, 2880, 2916, 2952, 2988, 3024, 3060, 3096, 3132, 3168, 3204, 3240, 3276, 3312, 3348, 3384, 3420, 3456, 3492, 3528, 3564, 3600, 3636, 3672, 3708, 3744, 3780, 3816, 3852, 3888, 3924, 3960, 3996, 4032, 4068, 4104, 4140, 4176, 4212, 4248, 4284, 4320, 4356, 4392, 4428, 4464, 4500, 4536, 4572, 4608, 4644, 4680, 4716, 4752, 4788, 4824, 4860, 4896, 4932, 4968, 5004, 5040, 5076, 5112, 5148, 5184, 5220, 5256, 5292, 5328, 5364, 5400, 5436, 5472, 5508, 5544, 5580, 5616, 5652, 5688, 5724, 5760, 5796, 5832, 5868, 5904, 5940, 5976, 6012, 6048, 6084, 6120, 6156, 6192, 6228, 6264, 6300, 6336, 6372, 6408, 6444, 6480, 6516, 6552, 6588, 6624, 6660, 6696, 6732, 6768, 6804, 6840, 6876, 6912, 6948, 6984, 7020, 7056, 7092, 7128, 7164, 7200, 7236, 7272, 7308, 7344, 7380, 7416, 7452, 7488, 7524, 7560, 7596, 7632, 7668, 7704, 7740, 7776, 7812, 7848, 7884, 7920, 7956, 7992, 8028, 8064, 8100, 8136, 8172, 8208, 8244, 8280, 8316, 8352, 8388, 8424, 8460, 8496, 8532, 8568, 8604, 8640, 8676, 8712, 8748, 8784, 8820, 8856, 8892, 8928, 8964, 9000, 9036, 9072, 9108, 9144, 9180, 9216, 9252, 9288, 9324, 9360, 9396, 9432, 9468, 9504, 9540, 9576, 9612, 9648, 9684, 9720, 9756, 9792, 9828, 9864, 9900, 9936, 9972, 10008, 10044, 10080, 10116, 10152, 10188, 10224, 10260, 10296, 10332, 10368, 10404, 10440, 10476, 10512, 10548, 10584, 10620, 10656, 10692, 10728, 10764, 10800, 10836, 10872, 10908, 10944, 10980, 11016, 11052, 11088, 11124, 11160, 11196, 11232, 11268, 11304, 11340, 11376, 11412, 11448, 11484, 11520, 11556, 11592, 11628, 11664, 11700, 11736, 11772, 11808, 11844, 11880, 11916, 11952, 11988, 12024, 12060, 12096, 12132, 12168, 12204, 12240, 12276, 12312, 12348, 12384, 12420, 12456, 12492, 12528, 12564, 12600, 12636, 12672, 12708, 12744, 12780, 12816, 12852, 12888, 12924, 12960, 12996, 13032, 13068, 13104, 13140, 13176, 13212, 13248, 13284, 13320, 13356, 13392, 13428, 13464, 13500, 13536, 13572, 13608, 13644, 13680, 13716, 13752, 13788, 13824, 13860, 13896, 13932, 13968, 14004, 14040, 14076, 14112, 14148, 14184, 14220, 14256, 14292, 14328, 14364, 14400, 14436, 14472, 14508, 14544, 14580, 14616, 14652, 14688, 14724, 14760, 14796, 14832, 14868, 14904, 14940, 14976, 15012, 15048, 15084, 15120, 15156, 15192, 15228, 15264, 15300, 15336, 15372, 15408, 15444, 15480, 15516, 15552, 15588, 15624, 15660, 15696, 15732, 15768, 15804, 15840, 15876, 15912, 15948, 15984, 16020, 16056, 16092, 16128, 16164, 16200, 16236, 16272, 16308, 16344, 16380, 16416, 16452, 16488, 16524, 16560, 16596, 16632, 16668, 16704, 16740, 16776, 16812, 16848, 16884, 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22068, 22104, 22140, 22176, 22212, 22248, 22284, 22320, 22356, 22392, 22428, 22464, 22500, 22536, 22572, 22608, 22644, 22680, 22716, 22752, 22788, 22824, 22860, 22896, 22932, 22968, 23004, 23040, 23076, 23112, 23148, 23184, 23220, 23256, 23292, 23328, 23364, 23400, 23436, 23472, 23508, 23544, 23580, 23616, 23652, 23688, 23724, 23760, 23796, 23832, 23868, 23904, 23940, 23976, 24012, 24048, 24084, 24120, 24156, 24192, 24228, 24264, 24300, 24336, 24372, 24408, 24444, 24480, 24516, 24552, 24588, 24624, 24660, 24696, 24732, 24768, 24804, 24840, 24876, 24912, 24948, 24984, 25020, 25056, 25092, 25128, 25164, 25200, 25236, 25272, 25308, 25344, 25380, 25416, 25452, 25488, 25524, 25560, 25596, 25632, 25668, 25704, 25740, 25776, 25812, 25848, 25884, 25920, 25956, 25992, 26028, 26064, 26100, 26136, 26172, 26208, 26244, 26280, 26316, 26352, 26388, 26424, 26460, 26496, 26532, 26568, 26604, 26640, 26676, 26712, 26748, 26784, 26820, 26856, 26892, 26928, 26964, 27000, 27036, 27072, 27108, 27144, 27180, 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32364, 32400, 32436, 32472, 32508, 32544, 32580, 32616, 32652, 32688, 32724, 32760, 32796, 32832, 32868, 32904, 32940, 32976, 33012, 33048, 33084, 33120, 33156, 33192, 33228, 33264, 33300, 33336, 33372, 33408, 33444, 33480, 33516, 33552, 33588, 33624, 33660, 33696, 33732, 33768, 33804, 33840, 33876, 33912, 33948, 33984, 34020, 34056, 34092, 34128, 34164, 34200, 34236, 34272, 34308, 34344, 34380, 34416, 34452, 34488, 34524, 34560, 34596, 34632, 34668, 34704, 34740, 34776, 34812, 34848, 34884, 34920, 34956, 34992, 35028, 35064, 35100, 35136, 35172, 35208, 35244, 35280, 35316, 35352, 35388, 35424, 35460, 35496, 35532, 35568, 35604, 35640, 35676, 35712, 35748, 35784, 35820, 35856, 35892, 35928, 35964, 36000, 36036, 36072, 36108, 36144, 36180, 36216, 36252, 36288, 36324, 36360, 36396, 36432, 36468, 36504, 36540, 36576, 36612, 36648, 36684, 36720, 36756, 36792, 36828, 36864, 36900, 36936, 36972, 37008, 37044, 37080, 37116, 37152, 37188, 37224, 37260, 37296, 37332, 37368, 37404, 37440, 37476, 37512, 37548, 37584, 37620, 37656, 37692, 37728, 37764, 37800, 37836, 37872, 37908, 37944, 37980, 38016, 38052, 38088, 38124, 38160, 38196, 38232, 38268, 38304, 38340, 38376, 38412, 38448, 38484, 38520, 38556, 38592, 38628, 38664, 38700, 38736, 38772, 38808, 38844, 38880, 38916, 38952, 38988, 39024, 39060, 39096, 39132, 39168, 39204, 39240, 39276, 39312, 39348, 39384, 39420, 39456, 39492, 39528, 39564, 39600, 39636, 39672, 39708, 39744, 39780, 39816, 39852, 39888, 39924, 39960, 40000.

∴ Hence LCM of 36 and 52 by listing method is = 468

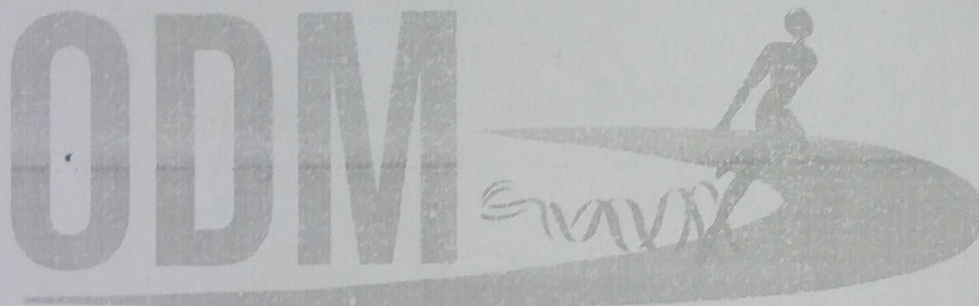
14. Find the LCM of 15 and 90 by common division method.

$\begin{array}{r l} 3 & 15, 90 \\ \hline 5 & 5, 30 \\ \hline 6 & 1, 6 \\ \hline & 1, 1 \end{array}$	<p>LCM = 3 × 5 × 6 = 90</p>
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15. Find the HCF of 144, 180 and 192 by common division method.

$$\begin{array}{r|l} 2 & 144, 180, 192 \\ \hline 2 & 72, 90, 96 \\ \hline 3 & 36, 45, 48 \\ \hline & 12, 15, 16 \end{array}$$

$$\text{HCF} = 2 \times 2 \times 3 = 12$$



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