

Prime Time Toolkit

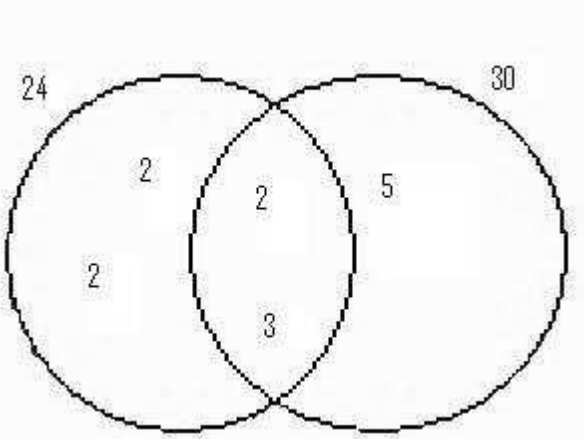
What? (vocab, important concepts) | Why? (definitions, illustrations, diagrams, ideas, explanations)

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| factor | Definition: A number that is multiplied by another number to get an answer(product). Example: $11 \times 4 = 44$ 11 and 4 are both factors of 44. |
| divisor | Definition: A number that divides another number leaving a zero remainder. Also called a factor. Example: 5 is divisor of 20 since $20 \div 5 = 4$ |
| proper factor | Definition: All the factors of a number except the number itself. Example: The proper factors of 16 are 1,2,4, and 8. 16 is a factor but is not a proper factor. |
| product | Definition: The answer to a multiplication problem. Example: 30 is the product of 6 and 5 since $6 \times 5 = 30$. |
| prime number | Definition: A number that has exactly two factors, 1 and the number itself. Example: 11 is a prime number because the only whole numbers that multiply to get 11 are 1 and 11. Some other prime numbers: 2, 7, 19, 91 |
| composite number | Definition: A number that has more than two factors. Example: 15 is a composite number because it has factors 1, 3, 5, and 15. Other composite numbers: 4, 6, 18, 99 |
| multiple | Definition: The product of a given whole number and another whole number. (Take a number and count by that number. Those are the multiples of that number). Example: The multiples of 3 are 3,6,9,12,15,18, etc. |

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| factor pair | <p>Definition: Two whole numbers that are multiplied to get a product.</p> <p>Example: Since $7 \times 4 = 28$, the numbers 7 and 4 are a factor pair of 28.</p> <p>14 and 2 are also factor pairs of 28.</p> |
| square numbers | <p>Definition: A number that is made from multiplying a number by itself</p> <p>Example: 64 is a square number because $8 \times 8 = 64$.</p> <p>100 is a square number because $10 \times 10 = 100$.</p> <p>Other square numbers: 1, 4, 9, 16, 25, 36, etc.</p> |
| conjecture | <p>Definition: Your best guess about a pattern or relationship based on observations.</p> <p>Example: You could make a conjecture that the sum of two even numbers will always be even.</p> |
| Venn diagram | <p>Definition: A diagram with overlapping circles used to show relationships among sets of numbers or objects.</p> <p>Example:</p>  <p>This Venn Diagram shows that the GCF of 24 and 30 is 6 because $2 \times 3 = 6$</p> |

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| common multiple | <p>Definition: A multiple that two numbers have in common or share.</p> <p>Example: The multiples of 4 and 10 are shown in a list below: 4: 4, 8, 12, 16, <u>20</u>, 24, 28, 32, 36, <u>40</u>, 10: 10, <u>20</u>, 30, <u>40</u>, 50, 60, 70, 80, 90, A common multiple would be of 4 and 10 is 20. Another is 40.</p> |
| common factor | <p>Definition: A factor that two numbers have in common or share.</p> <p>Example: The factors of 24 and 32 are shown in a list below: 24: <u>1</u>, <u>2</u>, 3, <u>4</u>, 6, <u>8</u>, 12, 24 32: <u>1</u>, <u>2</u>, <u>4</u>, <u>8</u>, 16, 32 There are several common factors: 1, 2, 4, and 8.</p> |
| Greatest Common Factor – GCF | <p>Definition: The greatest or biggest number that the two numbers have in common or share.</p> <p>Example: The factors of 12 and 30 are listed below: 12: 1, 2, 3, 4, <u>6</u>, 12 30: 1, 2, 3, 5, <u>6</u>, 10, 15, 30 12 and 30 have several factors in common but the greatest is the number 6.</p> |
| Least Common Multiple – LCM | <p>Definition: The least or smallest number that two numbers have in common or share.</p> <p>Example: The first eight multiples of 6 and 8 are shown below: 6: 6, 12, 18, 24, 30, 36, 42, 48 8: 8, 16, 24, 32, 40, 48, 56, 64 6 and 8 have many common multiples but the least is the number 24.</p> |

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| factorization | Definition: The strings of factors of a number. Example: 50 has several factor strings: 5 x 10 or 2 x 25 or 2 x 5 x 5 NEVER USE THE NUMBER 1 in a factor string!!! |
| prime factorization | Definition: The longest possible factor string for a number. Example: 48 has several factor strings: 2 x 24 or 3 x 16 or 4 x 12 or 6 x 8 or 2 x 2 x 3 x 4 or 2 x 2 x 2 x 2 x 3 The longest possible factor string is 2 x 2 x 2 x 2 x 3 so this is the prime factorization of 48. |
| exponent | Definition: The small raised number that tells you how many times a factor is used. Example: 2 5 = 25 The 2 is the exponent and it tells us to multiply 5 by itself two times. 5 x 5 = 25. |